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IN THIS ISSUE

Labor Grievances in the Soviet Union

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The Soviet-German Talks

★

Problems of Rail Transportation

★

Preliminary Results of the Soviet Grain Harvest

★

The Soviet Peat Industry

and

Other Topics from the Current Soviet Scene

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*

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TABLE OF CONTENTS

ARTICLES

Labor Grievances in the Soviet Union. By G. C. Guins 3
Problems of Rail Transportation. By A. Lebed 11

CURRENT SOVIET AFFAIRS

Foreign Policy

The Soviet-German Talks 18

The Economy

Preliminary Results of the Soviet Grain Harvest 23
The Soviet Peat Industry 29

REVIEWS

Review of *Kommunist* 37
Conference on the Goals of Physical Chemistry 41
Publications of the *Institute* 45

CHRONICLE OF EVENTS

October 1955 47
Changes and Appointments 48

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Vol. II October 1955 No. 10

ARTICLES

Labor Grievances in the Soviet Union

G. C. Guins

The Soviet Trade Union Statutes, in the latest wording approved by the Eleventh Congress of Trade Unions in 1954, have determined that the main task of the unions is to organize socialist competition among office and factory workers in order to achieve the maximum increase in labor productivity and the fulfillment of state plans, to ensure constant progress in all branches of industry, transport and agriculture, a higher quality of products with lower production costs, and complete utilization of all reserves of the economy.

Some labor conflicts are inevitable, however, and special organizations for examining and settling them are necessary. For this purpose the Appraisement and Conflict Commissions (Rastsenochno-konfliktnye komissii—abbreviated to RKK) were established. They consist of an equal number of representatives of the workers' committee and of management. Decisions can be reached only by agreement between these two parties. The RKK's are also empowered to deal with certain questions not connected with claims, as, for example, problems concerning labor conditions, which can be adjusted by the administration in agreement with the trade unions, as well as decisions on the need for overtime work and on the allotment or coordination of personal vacations. The RKK's also deal with claims concerning the transfer of workers to other jobs, with payment questions arising in connection with underproduction, stoppage and spoilage, dismissal because of disability or non-fulfillment of required duties, and other claims concerning compensation, bonuses or deductions.[1]

Consequently, trade unions are frequently compelled to protect their members from violation of their rights. The newspaper *Trud*, the organ of the All-Union Central Council of Trade Unions (VTsSPS), has printed many examples illustrating labor conditions in the Soviet Union as well as the true role of Soviet trade unions.

A collection of such examples borrowed from *Trud* is given below.

[1] G. Guins, *Soviet Law and Soviet Society*, The Hague, 1954, pp. 170-3, 364, 367.

Violations of Labor Law

"In some enterprises, due to the unsatisfactory organization of production, the 'end-of-the-month' rush [to complete the monthly plan] continues to flourish. This . . . provokes . . . the most flagrant violations of labor safety regulations."[2]

As an illustration the paper refers to the Kaganovich Bearing Works in Moscow, where "at the end of each month . . . [several] shops continued working for long periods on days off."

This phenomenon is evidently rather common if the organ of the Central Council of Trade Unions devotes an editorial to the problem. Various enterprises in the Chkalov region also violate safety regulations. *Trud* reports: "The situation is particularly abnormal at enterprises of the Road Construction and Assembly Trust in Chkalov. The manager . . . cancels days off and organizes overtime work."[3]

Does the trade union protect workers from this type of violation? It is more than probable that if it does, it does so reluctantly; often it does not protect them at all. The following case is probably typical: "The Chief Inspector of the Central Committee of the Trade Union of Machine Construction Industry Workers passed a resolution that those guilty of organizing work during days off should be prosecuted. But the Central Committee overruled it."[4]

No wonder that trade unions prefer to sacrifice the workers' interests, even those which are protected by law, if their main function is to assist in fulfilling and overfulfilling production plans.

Violations are numerous and diverse. Their frequency is clear from the enormous figure mentioned by Shvernik at the Congress of Trade Unions: "In 1953 the All-Union Council of Trade Unions received more then 160,000 complaints and letters . . . The Communist Party demands the eradication of bureaucracy and red tape in the examination of workers' complaints."

The newspaper *Trud* publishes only a few of the letters which it receives but it uses the remainder in editorials in generalized form. Consequently it is not difficult to imagine the real conditions of labor and the type of labor law violation practiced in everyday life.

The Soviet Constitution proclaims the right of citizens to rest and leisure (Article 119). Labor law ensures this right for workers and office employees. However, when managers cancel days off with impunity, the right to rest becomes a sham right. In practice, workers are frequently deprived of their right to rest and leisure guaranteed by the Constitution because the administration is quite arbitrary in distributing permits to visit sanatoriums and resorts. In Odessa, for example, the Chief Administration of Supply (Glavprosnab) of the Ministry of Industry distributed one third of its permits among employees in high positions. One of the fortunate people was the wife of the supply department chief in a jute factory. She did not work herself but was enabled to enjoy

[2] *Trud, Moscow*, May 26, 1954.
[3] *Ibid.*, August 12, 1954.
[4] *Ibid.*, May 21, 1954.

a good vacation nevertheless. Others enjoying similar benefits were the friends, acquaintances and relatives of the office manager.[5]

One frequent cause of conflict between workers and managers is the dismissal or transfer of workers from one job to another without sufficient reason. For example:

> The chief of the Molpromstroi Trust ... dismissed engineer Balanutsa because of a "reduction in personnel" ... but two weeks later he appointed Comrade Kapchinsky, the husband of the chief bookkeeper, to the same position ...
>
> It was decided to transfer a certain woman employee in the laboratory, Pchelina, to the job of storekeeper. She rejected this appointment and was dismissed because of a reduction in personnel. At the same time, however, another person was appointed [to the laboratory] in her place ... Comrade Rudman was engaged as chief bookkeeper, but was dismissed after a month, despite his forty-five years of experience, on the ground that "he did not pass the test." The oblast commission of the trade union, composed of experienced bookkeepers, did not consider the reasons for the dismissal valid, but the manager ... refused to restore Rudman.[6]

It is noteworthy that most of the cases of wrongful discharge concern the dismissal of workers for criticism or attempting to go over the head of the management with grievances. For example, a communications worker of the fishing industry in Astrakhan and a union organizer named Stepanov were discharged by the local manager, Tyurin, for sending a complaint to the Moscow office concerning shortage of tools and materials and systematic delays in the payment of wages. His dismissal was clearly illegal because Stepanov was a trade union officer and could only be discharged with the consent of the union. The order for his dismissal was revoked by the Assistant Minister of the Industry.[7]

The same newspaper related the story of the dismissal of a pregnant worker simply because she was pregnant and had the right to take paid leave. In another case a watchman was refused overtime pay during repairs although he had to work during his vacation.[8]

> During the spring of 1953 the miners of the Krasnogvardeiskugol Trust complained that the administration blatantly violated labor law [by illegally dismissing personnel]. It would seem that the oblast committee should have been eager to deal with the question as a matter of principle and should have compelled the managers of the mines to respect Soviet law, thus restoring order. But it acted otherwise. At its meetings dozens of resolutions were adopted concerning the restoration of the wrongfully dismissed miners, but the oblast committee did not draw a general conclusion from the facts.[9]

Another violation of the law is the refusal to give paid days off to workers having fixed wages, such as watchmen, guards, stablemen and janitors. Sometimes the administration denies workers the payment due on the basis of progressive

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[5] *Ibid.*, March 2, 1954.
[6] *Ibid.*, June 18, 1954.
[7] *Ibid.*, August 19, 1954.
[8] *Ibid.*, July 2, 1954.
[9] *Ibid.*, January 5, 1954.

premiums.[10] There are many cases of arbitrariness and favoritism in the distribution of bonuses.

The manager of an enterprise is vested with the authority to distribute bonuses among workers in accordance with their individual achievements. Special funds for this purpose are made available by the government, and their distribution is strictly controlled by law. Nevertheless, there is some evidence that misappropriation of funds and favoritism in distribution take place. Thus, the manager of Mine No. 9 of the Skuratovugol Trust had offset a 23,000 ruble deficit in the director's fund at the expense of a bonus fund. He also paid large bonuses to his chauffeur, secretary and cashier, while leaving some good production men without a bonus.[11]

Wages are not always paid on time. The Trade Union Statutes, in their latest wording, vest trade unions with the power to combat this violation of workers' rights. This phenomenon was very impressively described some years ago in *Trud:*

> Will wages be paid today? That is the question which comes up at the Southern Pipe Factory every 20th of the month when payroll slips are issued. Even when a worker has received a payroll slip he cannot be at all sure that he will get the money on the same day. Money may be paid to him on the following day, or the day after that, or even a week later—on any day between the 20th and 30th of the month. At times there is not enough cash to go round and it may be necessary for a worker to return to the accounting department several times a day.
>
> For those who work the night shift it is particularly difficult to obtain their wages. They must wait for one or two hours after the end of their shift, and sometimes even return to the accounting department during the day.
>
> It appears that this situation does not bother the factory management. No measures to improve the work of the accounting department and to ensure the payment of wages on the established day have been taken.[12]

Incorrect computation of wages is another source of labor grievances. This is particularly true in the construction industry, machine repair shops, and other works where the exact work performed by the individual employee or by a group of employees is not readily ascertainable. An operation, or a job, may be divided into so many small units of output that the computation of wages on the basis of the standard norm would be too time-consuming and impractical. For example, in the construction industry the work is itemized in such small detail that there are standard rates for each cutting of a board (1.3 kopek), and for each time a fitter bends a piece of metal (0.31 kopek).[13]

Standard rates, sometimes up to 300 in number, are expressed in fractions of a kopek and must be enumerated on the job order which is given to each worker or group of workers by a foreman or time clerk. Due to the obvious cumbersomeness of this system there is a tendency to avoid the use of fractional rates. Instead, time clerks compute wage rates "by pulling them out of the air."[14]

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[10] *Ibid.*, June 18, 1954.
[11] *Ibid.*, September 18, 1951.
[12] *Ibid.*, May 31, 1951.
[13] *Ibid.*, April 10, 1951.
[14] *Ibid.*

Furthermore, job orders are sometimes written after the work has been completed, and are often incorrect. For instance, at Chkalov Locomotive Repair Plant, job orders are written only twice a month from memory and predated. Sometimes they are written on scraps of paper and frequently are incorrect or lost altogether. "It is no wonder that some workers have been trying for months to obtain pay for work accomplished."[15]

Trade unions normally support the administration rather than the workers, and the complaints of the latter often remain without effect. During conventions and conferences this practice is criticized, but with little effect. The following caricature appeared in *Trud:* An office employee calls the director's attention to the fact that "the bookcase is crowded with complaints." "Well, well," answers the director, "we evidently have to buy another bookcase."

Such is Soviet reality. When the patience of the people is overstrained, the government pretends that it is ready to do its best to improve conditions. Newspapers are allowed to publish complaints, to reproach the guilty persons, to threaten violators, but the improvements, if any, are of short duration.

Violations of Collective Agreements

Collective bargaining was not practiced in the Soviet Union between 1934 and 1947, as it was considered an "obsolete form of industrial relations."[16] After its restoration in 1947 it was still only of secondary significance and frequently disregarded. In mid-1954 however a new trend became apparent: "There are still among leading economists and trade union workers some people who do not concern themselves with collective agreements . . . It is necessary once and for all to put an end to such a careless attitude towards collective agreements."[17]

This new trend is probably a temporary retreat. Since the publication of various cases of violation of collective agreements, many illustrations are now available of what "caring for the workers' needs" means in Soviet practice. *Trud* reports:

> From year to year the administration of the Magnitogorsk Metallurgical Combine does not fulfill agreements concerning the safety of workers . . . in many shops ventilation is out of order . . .[18]
>
> The agreements on measures necessary for the workers' safety were fulfilled at a number of enterprises by only two thirds, in others still less . . . certain managers continue to be indifferent towards the conditions of labor and life of the workers; they consider caring for workers' safety as something of minor importance . . .
>
> During the examination of how collective agreements were fulfilled by the Mikoyan Meat Combine in Tbilisi it was ascertained that less than 60% of the appropriation for labor protection and safety measures was spent for that purpose.[19]

[15] *Ibid.*, September 16, 1951.
[16] N. G. Aleksandrov, D. M. Genkin, *Sovetskoe trudovoe pravo* (Soviet Labor Law), Moscow, 1946, p. 106.
[17] *Trud*, Moscow, July 24, 1954.
[18] *Ibid.*, January 23, 1954.
[19] *Ibid.*, February 20, 1954.

This case is typical. In their endeavor to produce in greater quantity and at a smaller cost the Soviet managers neglect both the interests and the health of the workers. Machinery for oil extraction and oil refineries is constructed without consideration for safety rules:

> The All-Union Scientific Research Institute designed a number of safety devices . . . however, they are not being constructed by specialized enterprises but by ones interested only in fulfilling their own particular production plan [in other items]. As a rule they fulfill orders with considerable delay. For example, one Baku factory of the Ministry of the Petroleum Industry for two years now has been "executing" a small order for safety devices to protect people from the danger of electric shock. The Sardarov Works has been a year and a half constructing a hundred joists for tower workers . . .
>
> The need has now become evident for a special trust which would produce and install numerous safety devices . . . for industrial enterprises . . .
>
> As in any field, an important role in safety engineering is played by qualified personnel. In many enterprises at present the position of safety engineer is held by persons without technical training. Very frequently lawyers or financial experts are to be found in this position. The enterprises, however, need safety engineers who are familiar both with technological processes and industrial hygiene as well as with the legislation concerning labor safety . . .
>
> A great need is felt for special scientific and technical literature. The number of publications on the subject in no way satisfies the existing demand . . .[20]

Indifference to workers' safety is a permanent attitude. Ventilation, for example, is evidently a sore spot at Soviet factories: "Ventilation systems occupy too much room, are expensive, uneconomical and often contaminate rather than improve the atmosphere."[21]

Not only ventilation but medical care in general is substandard in Soviet factories. Either there is no equipment, or it is out of order, or there is equipment but no personnel.[22]

Outside the factories, conditions are no better. In a settlement for power station workers near Kuibyshev there is no bathhouse:

> In order to take a bath, one had to travel 15 kilometers to town. Finally, the Ministry of Power Stations of the USSR decided to free the workers from this inconvenience. Comrade Kucheryavy, the manager of . . . a construction administration . . . was directed to build a bathhouse. A whole year was allowed for construction although such a small bathhouse was not even three months' work. However, after a year . . . in place of the bathhouse there was only a foundation overgrown with grass.[23]

Workers, exhausted after strenuous work in the factory, live under such conditions that they cannot restore their energy:

> Here is a workers' settlement—Zaporozhe Levoe. It is located ten kilometers from the town. In this settlement there is no bathhouse, no restaurant and no

[20] *Ibid.*, September 2, 1951.
[21] *Ibid.*, June 6, 1954.
[22] *Ibid.*, March 30, 1954.
[23] *Ibid.*, January 24, 1951.

store. The Workers' Supply Organization of the Zaporozhstal Plant and the Zaporozhstal Trust opened two stands for the sale of bread and two for foodstuffs, but these stands cannot possibly satisfy all the population.

People have to go to town for every trifle, and it is not an easy task. The nearest streetcar is three to four kilometers away . . .[24]

Three years later living conditions in Zaporozhe had not changed for the better:

There is still only one bath-laundry combination and it seems to be concerned with everything but the inhabitants' needs . . . Streetcar lines are terribly bad. They are inadequate for the transportation needs of the population. People are often compelled to go to work on foot, walking from four to five kilometers in order to be on time for the start of their shift.[25]

There are many complaints on the part of workers that they are not provided with dining rooms and healthy food:

Many hundreds of workers collect every evening in the dormitories of Dalny Settlement near Kazan. Through the open doors and windows the sound of pails and the clattering of pots and pans can be heard. The unmarried workers of the Kazan Plant of the Ministry of Agricultural Machine Construction are busy cooking after their working day. Six years have passed since the cafeteria was closed in the settlement . . .

For several years young workers have inserted a point in the resolutions of numerous meetings and conferences concerning the opening of a cafeteria in the settlement. But the management shows itself consistently unwilling to help the young workers. Consequently more than 600 unmarried workers are forced to do their own cooking.[26]

Three years later such problems still occur:

For two years now [young workers at the Yaroslavl Tire Factory] . . . have been requesting the director . . . to open a dining room . . . but the administration and trade union leadership at the enterprise show no concern for the needs of the young workers.[27]

Further quotations would be superfluous. The Soviet government has acknowledged the need to organize dining rooms and restaurants for improving the living conditions of workers. It issued the necessary instructions to its local agencies in 1953 and 1954. There is not sufficient data, however, on which to judge how successful this new development has been. The problem is evidently not easy to solve. Existing dining rooms are often not satisfactorily equipped and do not have sufficient kitchen utensils, tinware or crockery. Customers have to wait in long lines to obtain food.[28] If there are dining rooms, there is insufficient food, and managers offer vodka and other liquors instead of healthy food and soft drinks. A similar situation exists, according to Soviet newspapers, in many small towns and other settlements.

[24] *Ibid.*, April 20, 1951.
[25] *Ibid.*, May 19, 1954.
[26] *Ibid.*, August 29, 1951.
[27] *Ibid.*, January 24, 1954.
[28] *Ibid.*, March 30, 1954.

Besides food, workers sometimes cannot get fuel either. It is amazing that even miners are not supplied with coal in spite of the guarantees included in collective agreements. They do not get coal "in conformity with the established norms." In response to complaints, the central committee of the trade union once answered: "Yours is not the only place where this situation exists."[29]

It is no better where workers' clubs are concerned:

> [The club building of the Rzhevsk Factory in Kalinin] is not ready for the winter season, windows are not glazed, stoves not repaired. Plaster pours down from the ceiling, dirty strips decorate the walls . . .
>
> The administration is obliged by collective agreement to repair the cultural institution, but . . . this is only a paper obligation.[30]

Several articles published in *Trud* and *Pravda* describe another aspect of the problem. Some clubs are in good condition but they do not attract people. Their activity programs are not interesting. The management does not care or does not know how to put spirit into the clubs' activities. "Everything is stereotyped, routine dominates. There is no creative imagination, no initiative, and finally there is no real concern about the cultural leisure of working people—this is what causes boredom in the clubs."[31]

Trade unions, as we have seen, do not assist the workers. The admonitions in *Trud* evoke no response because the trade unions have primarily to support the administration, not the workers. Problems of production costs, the fulfillment of plans, and government requirements in general always have priority over the workers' living conditions. Neither the government nor the newspapers are ignorant of the true state of affairs, but the whole system is based on sacrifices. In order to console the people and to inspire them with confidence in the future, newspapers are instructed to disguise the shortcomings of the present from time to time, but the main trend remains the same:

> The director [of the Tuapse oil refinery plant] . . . obviously neglects the workers' needs. Moreover, the plant committee and its chairman, Comrade Forostyanov, remain passive. The latter evidently does not wish to "strain relations" with the director . . . The chief engineer . . . loudly threatened [workers who complain] . . . for their insistence.[32]
>
> Trade unions have the right to control the construction of housing, the operation of dining rooms, communal enterprises and medical institutions. However, they are by no means making full use of this right.[33]

Is it not natural that workers cease to apply to the trade union committees with their complaints? They know that this will not help them in any case.[34] In the meantime very urgent needs remain.

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[29] *Ibid.*, August 13, 1954.
[30] *Ibid.*, February 25, 1954.
[31] *Ibid.*, May 19, 1954.
[32] *Ibid.*, May 21, 1954.
[33] *Ibid.*, June 6, 1954.
[34] *Ibid.*, May 19, 1954.

Problems of Rail Transportation

A. Lebed

In the Soviet Union the railroads account for over 80% of total freight volume and thus represent one of the most essential sectors of the economy. However, despite measures taken by the Soviet government to increase railroad freight traffic, the Soviet railroads have not been able to keep up with the increased demands for freight hauling. Of the various reasons for this deficiency, the most important is probably the disproportion between the growth of industry and that of rail transportation facilities. This is aggravated by a further uneven development within the sphere of rail transport itself. Thus, although certain sections of the rail network have been developed to handle satisfactorily the traffic assigned, others lag behind and constitute bottlenecks that prevent the system as a whole from performing the job to be done.

In striving for an increase of freight volume, the Soviets have been placing increased emphasis on heavier loading of rolling stock. The freight volume per ton of tractive power rose from 460,000 ton-kilometers in 1913 to 1,377,000 ton-kilometers in 1951.[1] Since then the loading per locomotive has been increased considerably, a factor which is certain to have an adverse long-run effect on the railroad system. Freight cars are likewise badly overworked.

The Central Statistical Administration reports that in the first six months of 1955, during which the overall daily freight plan was overfulfilled by 3%, the "plan for hauling coal, petroleum and petroleum products, timber, cement, refractory materials, building materials, fusing agents, artificial and mineral fertilizers, flour and groats, cotton and cloth was not fulfilled."[2]

This failure to fulfill the plan for certain types of freight has been increasing every year. The plans not met in the past three years are:[3]

1953: Timber, Building Materials, Fusing Agents, Peat.

1954 (6 months): Coal, Timber, Firewood, Cement, Refractory Materials, Building Materials, Fusing Agents, Flour and Groats, Household Metal Goods.

1955 (6 months): Coal, Petroleum and Petroleum Products, Timber, Firewood, Cement, Refractory Materials, Fusing Agents, Artificial and Mineral Fertilizers, Flour and Groats, Cotton, Cloth.

Thus, in 1954 the crisis in the railroads' carrying capacity began to become more acute and so far there seems to have been no improvement. The country's increasing demands on transportation are being met less and less. This factor has a definite braking effect on economic development.

The failure to meet transportation goals for individual types of freight is not a result of the unsatisfactory functioning of the rail transport system alone.

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[1] *Tekhnicheskaya entsiklopediya* (Technical Encyclopedia), Moscow, 1938, VII, pp. 599 to 622; E. P. Lebedev, *Transportnaya statistika* (Transport Statistics), Moscow, 1953, pp. 30, 32, 33; *Voprosy ekonomiki*, Moscow, 1952, No. 4, pp. 31—42.

[2] *Gudok*, Moscow, July 22, 1955.

[3] *Planovoe khozyaistvo*, Moscow, 1954, No. 6, p. 49; *Gudok*, Moscow, July 22, 1955.

There have been innumerable examples of bad organization, inefficiency, unproductive runs and misuse of rolling stock. Nevertheless, the railways are boosting the volume of their hauls from year to year. This is mainly through intensification of operations and improved exploitation of rolling stock bordering, however, on overexploitation. The utilization of the available railway resources in the USSR is at a fairly high level and in certain respects far exceeds that of many other countries.

Judging from the present volume of goods being carried, freight volume in 1955 is expected to be 935.8 billion ton-kilometers, an increase of 89.4 billion ton-kilometers over the plan figure. The projected industrial production increase of 70% during the next five-year plan and the development of grain farming in Kazakhstan and other remote regions will cause a further swelling of freight traffic. It seems certain that the freight volume during the Sixth Five-Year Plan will increase by at least 60%, that is by 1960 will reach 1,500 billion ton-kilometers.[4]

Growth in Freight Volume
(In Billions of Ton-Kilometers)

	Total Increase	Average Annual Increase
1928—1932	75.90	15.20
1933—1937	185.50	37.10
1938—1940	60.20	20.00
1941—1950	186.75	18.60
1951—1955	334.10	66.80
1956—1960	564.20	112.80

The huge increases in the Fifth and Sixth Five-Year Plans are striking. Indeed, during the coming plan the annual increase will be almost twice the total volume in 1913.

These large increases are already necessitating not only an intensification of labor, a factor which in itself can do little to improve the working of the railroads at present, but also the carrying out of more effective measures to raise load capacity sharply on the sections most feeling the strain. Various research institutions have been studying these problems. Since transportation is having a detrimental effect on general economic development, the question of railroad reconstruction has been given considerable attention:

> At the moment the Communist Party and the Soviet government are carrying out a broad program for further technical reconstruction of rail transport and increasing traffic and load capacities so that movement can be effected without interruption, with the least expenditure and at higher speeds.[5]

An increase in freight capacity is to be realized through rebuilding and improving the locomotive stock. Hitherto, the Soviets have been very slow in developing and introducing new locomotives. The Communist Party's policy

[4] L. M. Kaganovich, *Uluchshit rabotu i organizovat novy podem zheleznodorozhnogo transporta* (Improve Work and Organize a New Rise in Rail Transport), Moscow, 1954, p. 15.
[5] *Voprosy ekonomiki*, Moscow, 1954, No. 6, p. 45.

has been that of intensifying utilization of existing equipment. However, these measures can be productive only up to a certain point at which the limiting factor is ultimately the rolling stock.

The predominant type of locomotive on Soviet railroads today is an engine, which, with its low coefficient of utility and large coal consumption—the railways use up to a third of the coal mined—does not permit much expansion of load capacity.

Kaganovich, in a speech at the All-Union Congress of Rail Transportation Workers on May 8, 1954, said:

> The chief measure, on which, to a considerable extent, depends a rapid solution of the problem of freight capacity, is a decided increase, almost double, in train loads while at the same time increasing the speed of movement... But to solve completely the task of achieving this large increase in train loads we must have powerful locomotives which do not subject the track to undue wear.[6]

He later added that steam would remain on the scene but that Diesel and electric locomotives are to become increasingly important.[7]

The question of electrification and the introduction of Diesel locomotives is not new. The development of electric traction was begun in 1926 when the first line to be electrified in the USSR was put into operation, linking Baku and Surakhany via Sabunchi, a distance of 20 kilometers. In 1929 the first section of the urban line Moscow—Mytishchi was electrified, a distance of 18 kilometers. In 1932 the electrification of the Transcaucasian railway was begun. During the early years a number of electric locomotives of foreign construction were used on the Soviet railways. The first Russian model, the VL-19, was built in 1932. The turning point in the development of electrification was the 1931 July plenary session of the Party Central Committee which stated in its decisions that "the main link in the reconstruction of rail transport as far as development is concerned is electrification . . ."[8]

The process of conversion was as follows: In 1934 the production of the VL-19 began; in the same year the first electric passenger locomotive, the PB-21, was built and in 1938 a new model of the freight train VL-22 introduced, production starting the following year. At present, a new eight-axle locomotive, the N-8, built by the Novocherkassk Electric Locomotive Works, is undergoing trials. It is probable that the VL-22, the VL-22 M (an improved version) and, if the trials are a success, the N-8 will be the main types used.

Data are not available to calculate the volume of traffic taken by electric trains, for it is not known how many such locomotives are in operation. However, the growth in the length of track converted shows that the period of

[6] L. M. Kaganovich, *op. cit.*, p. 69.
[7] *Ibid.*
[8] *KPSS v rezolyutsiyakh i resheniyakh sezdov, konferentsii i plenumov TsK* (The Soviet Communist Party in Resolutions and Decisions of Congresses, Conferences and Plenums of the Central Committee), Part II, 1953, p. 646.

experiment has long passed. The following table shows the increase in electrified lines in kilometers:[9]

1940	1,870	1952	3,940
1946	2,190	1953	4,600
1950	3,270	1954	5,290
1951	3,470	1955 (6 months)	6,300

Electric traction was first used on the following lines:

1926 ..... Baku—Surakhany	1934 ..... Moscow—Zheleznodorozhnaya
1929 ..... Moscow—Mytishchi	1934 ..... Leningrad—Oranienbaum
1932 ..... Khashuri—Zestafoni	1934 ..... Ligovo—Gatchina
1934 ..... Moscow—Zagorsk	1934 ..... Chusovskaya—Kizel
1934 ..... Mytishchi—Chkalovskaya	1934 ..... Zestafoni—Surami

Then followed:

Chusovskaya—Sverdlovsk	Chusovskaya—Goroblagodatnaya
Kandalaksha—Murmansk	Chelyabinsk—Zlatoust
Apatity—Kirovsk	Sverdlovsk—Nizhny Tagil
Perm—Chusovskaya	

The latest important stretch to be electrified is the 640-kilometer line from Omsk to Novosibirsk, completed this year.[10] In addition, the urban lines round the larger centers such as Moscow, Leningrad, Kiev, Baku, Riga, Tallin, Kuibyshev, Chelyabinsk and Tbilisi have been largely electrified.

Although 19 Soviet lines are now electrified, they represent only about 5% of the total rail network.[11] However, since it was carried out on the more critical lines, in the Urals and Siberia for example, an improvement is likely. The whole question of electrification is being given much more attention than before. E. Rudoi, the head of the chief locomotive section of the Ministry of Ways of Communication reported that since September 1953 the length of electrified track has increased 37% and the number of locomotives 36%.[12]

This rate of increase, however, is not meeting the Party Central Committee's requirements. Kaganovich stated that the Soviet government has approved a plan "under which between 1951 and 1960 the length of electrified lines is to be increased approximately tenfold in comparison with the prewar period."[13]

In accordance with this plan, by 1960, 2,000 locomotives of the types VL-22, VL-22 M and N-8 are to be built.[14] As for progress so far, during the first three years of the Fifth Five-Year Plan, that is from 1951 to 1953, only 18% (1,300 kilometers) of the lines to be converted before the end of 1955 were actually electrified.[15] This left a balance of 5,900 kilometers to be converted during the next two years, which would give a total length of electrified lines of 10,500 kilometers by the end of 1955.

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[9] *Gudok*, Moscow, June 28, 1955; L. M. Kaganovich, *op. cit.*, pp. 62, 70; A. G. Naporko, *Ocherki razvitiya zheleznodorozhnogo transporta SSSR* (Outline of the Development of Soviet Rail Transport), Moscow, 1954, p. 156.

[10] *Gudok*, Moscow, July 14, 1955.

[11] *Gudok*, Moscow, March 30, 1955.

[12] *Gudok*, Moscow, June 28, 1955.

[13] L. M. Kaganovich, *op. cit.*, p. 70.

[14] *Ibid.*

[15] *Ibid.*

Information available shows that on June 1, 1955 the length of electrified lines was only 6,300 kilometers. It will be practically impossible to make up the difference before the end of the current year, and it may reasonably be assumed that about 4,000 kilometers less than planned will have been electrified. Thus, the Sixth Five-Year Plan, which will be adopted at the Communist Party's Twentieth Congress in 1956, will have to accelerate the process considerably. To reach a 1960 figure of 19,000 kilometers, the next five years would require the conversion of 12,000 kilometers. This will make demands on the national economy that in all probability cannot be met, for in addition to the difficulties with the laying of track, the number of electric locomotives is insufficient. Still, the work done by electric traction is rapidly increasing, and during the next ten years the Soviets propose that it handle up to 40% of the country's total freight.[16]

One interesting feature is that, with the exception of the urban lines, the vast majority of the lines being electrified are in the more distant regions such as the Urals and Siberia.

There has been considerable interest in Diesel power during the last few years, particularly since the 1955 June plenary session of the Party Central Committee. A vast amount of time and space has been devoted to the question, which has become a regular feature in the railroads' periodical press, as well as in some of the central newspapers.

The first Soviet Diesel locomotive was built in Leningrad in 1924. There followed innumerable experiments and modifications. On July 15, 1925 the Council of Labor and Defense issued a decree on the formation of a Diesel commission in the People's Commissariat of Communications. In 1927 a Diesel office was established to work out projects. The previous year an experimental base had been set up at Lyublino and Diesel locomotives tried out on the Moscow—Kursk stretch. In 1931 all the Diesels were concentrated on the Ashkhabad line. By the end of 1932 a standard type had been evolved, and the first model was produced in the same year at the Kolomna works.

In 1934 this plant turned out the first two-section Diesel-electric locomotive, a 2,000 HP machine. Up to World War II only the Kolomna works had been building Diesels. There is now a plant in Kharkov, and more recently construction of Diesel locomotives began in Ulan Ude.

In 1947 the Kharkov works built the TE-I a 1,000 HP Diesel and in 1948 a trial two-section model, the TE-2 with two engines producing 2,000 HP. This was put into production in 1950. In 1953 the trial TE-3 was built, a one-section 2,000 HP Diesel locomotive. Prior to 1936 Diesels with mechanical transmission were turned out, but then abandoned because of the advantages of the Diesel-electric combination. The types of Diesel currently in use are the TE-1, TE-2 and the TE-5, a locomotive adapted to operate at the extremely low winter temperatures. Later, the TE-3 is likely to be produced in fairly large numbers.

[16] *Voprosy ekonomiki*, Moscow, 1955, No. 6, p. 46.

Another type is the gas generator internal combustion locomotive, experiments with which had begun as early as 1926. Although innumerable tests have been carried out, this type has not yet gone into production. However, the Kharkov plant has built the experimental 2,000 HP TE-4, and reports indicate that it will probably be turned out in large numbers.

During the current five-year plan the construction of Diesel locomotives began to outstrip that of electric locomotives. Thus, it was planned to turn out 300 of the former type in 1950 but only 220 of the latter. A significant increase in the length of track served by Diesels has taken place since the war.[17]

Length of track in kilometers:

1945	1,450	1950	3,500
1946	2,000	1951	4,200
1947	2,160	1952	4,600
1948	2,580	1953	5,200
1949	3,000	1954	6,000

At the same time the 6,000 kilometers now served by Diesels are only 5% of the total rail network and carry only 4% of the total volume of traffic. During the next ten years the Soviets plan to increase the percentage of freight carried by Diesels:

> The rapid introduction and application of Diesel locomotives is an important problem in the future development of the railways. A sharp increase in the application of Diesel traction would permit the most economical solution of the problem of ensuring the uninterrupted functioning of the railroads. As a result, we should succeed in avoiding difficulties by increasing the carrying capacity of the railroads on the lines with a heavy freight traffic, where at the moment steam traction is insufficient.[18]

However, the construction of Diesels will not permit such a rapid development for thus far only the Kharkov works is turning out Diesel locomotives. The Soviet government is disturbed by this, for it sees the only solution to the constantly deteriorating situation in the application of this type of traction. It is stated quite clearly that "the incorrect technical policy of industrial workers in the sphere of Diesel locomotive construction has led to an insufficiency of Diesel locomotives on the railways."[19]

The low level of Diesel construction can be judged by the fact that hitherto Diesel engines designed for other purposes have been adapted and built into locomotives. There are no plants engaged in the production of engines for Diesel locomotives. The demand was made recently that Diesel engine workers "in the shortest possible time start and develop the production of powerful, economical and reliable Diesel engines."[20] However, there seems little chance of them doing this quickly enough.

[17] *Voprosy ekonomiki*, Moscow, 1955, No. 6, p. 47; *Gudok*, Moscow, June 28, 1955; A. G. Naporko, *op. cit.*, p. 156.
[18] *Voprosy ekonomiki*, Moscow, 1955, No. 6, p. 46.
[19] *Ibid.*, p. 47.
[20] *Ibid.*, p. 48.

At present Diesel locomotives are in operation on the following lines: Ashkhabad, Orenburg, Privolzhskaya, Ordzhonikidze, Tashkent, Turksib, Mointy—Chu, Chardzhou—Kungrad, Kungrad—Makat, and a number of short stretches.

The Soviets envisage using Diesel traction for all traffic in the whole of the Central Asian region and on a number of lines in the far east and the north.[21] This transition is essentially the only solution to the present difficulties. The Soviet leaders, impressed by the achievements of other countries, particularly the United States, and in keeping with the "new look" are advocating that foreign experience be heeded. Thus, an article "The Development of Diesel Traction on the World's Railroads" states that in the United States the first powerful Diesel sectional locomotives were constructed in 1933 and that there were 23,700 by the end of 1954, while during the same period the number of steam locomotives had been reduced from 40,000 to 9,000.[22] Diesel locomotives now make up 75% of the American total and carry out 80 to 85% of all traffic and perform about 90% of switching.

The Soviet reader and particularly the specialist knows that the USSR produced the first Diesel locomotive in 1924 but that to date the amount of haulage performed by Diesel traction is only 4% of the total. It is not surprising, therefore, that foreign experience has now begun to attract attention. It is not unlikely that the free world will receive visits from Soviet teams studying the problem, but the gain in experience will not produce the immediate results required. The only solution will be for the Soviet Union to buy the locomotives it needs from abroad, chiefly from the US. That will be at least one concrete result from the Soviets' new policy of fostering the "spirit of Geneva."

[21] *Ibid.*, p. 57.
[22] *Gudok*, Moscow, August 9, 1955.

CURRENT SOVIET AFFAIRS

Foreign Policy

The Soviet-German Talks

The next large-scale move organized by the Soviet government after the Geneva talks was the September meeting of the Soviet leaders first with Adenauer (September 9-13), and then with representatives of the East German government (September 16-20). These talks took place entirely on the initiative of the Soviets. TASS reported that the talks with the East Germans were a continuation of the conference held by Bulganin and Khrushchev in Berlin in July of this year, during the Soviet leaders' return journey from Geneva.[1]

The official aim of the first talks was to establish diplomatic relations between West Germany and the Soviet Union,[2] whereas the aim of the second series was to deal with "further steps intended to develop and strengthen the friendly relations between the USSR and the German Democratic Republic and with other questions of interest to both sides."[3]

The basic problem at Geneva was the German question, which will also be of cardinal importance at the October conference of foreign ministers. Consequently, the close link between the September talks and the basic problem of the relations between the Communist bloc and the free world becomes apparent.

After the Soviet failure in 1954 to prevent West Germany's entry into NATO the Soviet politicians sought to neutralize Germany, or at least to bring about a considerable delay in the implementation of practical measures for including West Germany in the Atlantic and European alliances. When the last attempt to destroy the Paris Agreements by creating an eastern counter-NATO (at the Warsaw Conference in December 1954) failed to achieve the desired effect, Soviet diplomacy changed its tactics. Instead of a policy based on a "position of strength" and masked threats, it adopted infiltration tactics and a more subtle form of diplomatic maneuvering. By declaring its wish to reduce international tension and terminate the cold war, putting forward radical disarmament plans, softening the harshness of Communist propaganda and demonstrating its good will in signing the Austrian Peace Treaty and normalizing relations with Yugoslavia, Soviet diplomacy was attempting to play on the sore point in the West—the desire for peace and a reduction in tension. In Germany, for example, policy aimed at strengthening the position of those who were opposed to Germany's inclusion in NATO and at increasing the neutralist tendencies existing in that country. The Soviet thesis that Germany could be united if West Germany repudiated her obligations towards NATO was intended to strengthen even further neutralist tendencies in the West.

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[1] *Izvestia*, September 15, 1955.
[2] *Ibid.*, September 14, 1955.
[3] *Ibid.*, September 15, 1955.

These tactics have been successful. The proposal made to the Bonn government by Moscow to discuss the establishment of diplomatic relations raised in certain circles the hope that the Soviet leaders were ready to make concessions on the German question. It was felt that the concessions would take the form of an agreement to permit free elections in the eastern zone and that the Soviets would abandon their support to the German Communist government if West Germany left NATO.

The Geneva Conference destroyed these hopes. In reply to the Western attempt to link the German problem with the general security and disarmament question, the Soviet side executed a countermaneuver. It consisted of separating the two problems and entrusting the solution of the German problem to the "Germans themselves," that is, it was to be decided in negotiations between East and West German representatives. Both sides remained firm in their decision, and, in order not to break up the conference, the question was postponed for discussion by the foreign ministers in October.

A still greater blow to hopes of Soviet concessions on the German question was dealt by the speeches of Khrushchev and Bulganin in Berlin on their way back from Geneva. Their official assurances that no damage would be inflicted on the interests of the German Democratic Republic and that the USSR recognized the Grotewohl government as the lawful representative of the East German population clearly illustrated that the Soviet political line remained unchanged, despite the new tactics.[4]

Moreover, the speeches of Khrushchev and Bulganin showed that the Soviet government was striving not only to neutralize Germany but also to retain in any united Germany "all the achievements of a social and political nature" which had been made by the East German government.[5] In other words, German unity would be permitted by the Soviet leaders only if the "political and social achievements" of the East German government were extended to the whole of Germany. Even for the German opposition to Adenauer, this suggestion, which proposed that a beginning be made not with free elections, but with the establishment of a national front type government, was unexpected. Both the government and opposition parties in West Germany have always rejected the right of the East German government to speak for the population of the East. Adenauer's last attempt before leaving for Moscow to expand the theme of the talks (which were limited by the Soviets to the establishment of diplomatic relations) by including on the agenda the question of German prisoners of war and the reestablishment of German unity was condemned to failure, since it would have meant Soviet acceptance of Adenauer's right to speak for the whole of Germany. In reply to the West German note the Soviet government stated its agreement to discuss the subject but emphasized that its viewpoint on the possibility of reestablishing German unity was well known.[6] This reply indicated that the Soviets were not prepared to make concessions.

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[4] *Pravda*, July 7, 1955.
[5] *Ibid.*
[6] *Ibid.*, August 20, 1955.

Thus, the Soviet maneuver to establish diplomatic relations with West Germany was pursuing a twofold aim:

1. By recognizing the government of West Germany *de jure* and proposing that the unity of Germans was something for the Germans themselves to decide (by agreement between East and West Germany), the Soviet Union wished to exclude the problem of German unity from the control of the Big Four and to distinguish it from the question of European security and general disarmament.

2. By recognizing the West German government *de jure* as having sovereignty over its part of Germany it would thus heighten the authority of its own satellite, Eastern Germany.

The achievement of these aims in the talks with Adenauer would create favorable conditions for Soviet diplomacy at the four-power October conference of foreign ministers. The Soviet side could then:

1. Insist (as at Geneva) on a distinction being made between the German question, as an internal German problem, and general problems concerning European security and disarmament, thus leaving the Soviet position in East Germany intact.

2. Discount any claims the government of West Germany and members of the Atlantic Union might make to be speaking for the whole of Germany.

3. Demand that the German Democratic Republic be invited to participate in any discussions of the German problem in case the Soviet attempt to sidestep the German problem should not succeed.

However paradoxical it may seem, the achievement of these Soviet aims depended on the agreement of the West German government to establish normal diplomatic relations with the USSR even if Moscow did not accept Adenauer's claim to speak for the whole of Germany. The talks with East Germany were carried out for the sake of maintaining decorum and to conceal the acceptance by a satellite state of the necessary instructions from Moscow. The recent Soviet diplomatic moves were carried out accordingly.

The meetings between the Soviet government and the East and West German delegations respectively took place with an equal degree of ceremonial. The difference was that, whereas the talks with Chancellor Adenauer once reached a dramatically tense point, the conference with Grotewohl took place in a completely "friendly" atmosphere and "full agreement in views" was reached.

The Soviet maneuver was clearly understood by West Germany, the United States and England even before the talks. However, Adenauer could not refuse to attend the talks for two reasons:

1. Constant pressure is exercised by the West German opposition parties, which have constantly been demanding direct talks with the USSR to solve the problem of German unity.

2. The desire for peaceful coexistence predominates among the masses in the free world. They demand that not one stone be left unturned in the attempt to reduce international tension. This mood was encouraged by the Geneva Conference.

The German chancellor could not refuse the Soviet suggestion for reestablishing diplomatic relations without appearing to act against the prevailing tendency to reduce tension in international relations. The Soviets fully exploited this.

The usually well-informed German magazine *Der Spiegel* reported that one intention of the Bonn government was to establish diplomatic relations conditionally and temporarily and to make their continuation dependent upon a solution to the problem of German unity.[7] The Soviets sharply attacked these attempts, and Khrushchev and Bulganin declared, almost in the form of an ultimatum, that the proposal was insulting to the Soviet Union. Adenauer's claim to speak for the whole of Germany was decisively rejected by Khrushchev, who stated that he "saw in the government of East Germany the future of the whole country."[8] The only satisfaction given to Adenauer concerned the release of war prisoners, and even this was only given at the last moment and verbally. It might be thought that this concession was obtained only by the chancellor's demonstration of his intention to break off the talks earlier than planned and his request for his plane ahead of schedule. It might be assumed that the German war prisoners were meant to be presented to the government of East Germany in order to raise the authority of the latter with the West German population also, but that fear the talks would break down led the Soviet leaders to make a last-minute concession.

The talks ended with the publication of a final communiqué,[9] which dealt with the establishment of diplomatic relations and the opening of embassies in the two capitals. The agreement has already been ratified by the Bonn parliament and the Supreme Soviet of the USSR. The statement expresses the opinion that: "the establishment of diplomatic relations will further the development of mutual understanding and cooperation . . . and should in this way aid in the solution of the principal problem of national importance for the Germans—the reestablishment of the unity of a German democratic state."[10]

The emptiness of this assertion soon became clear from the attitude to the supplementary letter sent by Adenauer to Bulganin. In the letter Adenauer reaffirmed his viewpoint that the establishment of diplomatic relations did not constitute acceptance of the present territorial status of Germany and that a final decision on the borders had to be postponed until the conclusion of a peace treaty. Adenauer also pointed out the right of the Federal Republic to represent the whole German nation at international conferences.[11] The Soviet press did not publish this letter, although two days later, on September 16, TASS published the viewpoint of the Soviet government on the declarations made by Adenauer at a press conference in Moscow on September 14. The Soviet report stated:

> The Soviet government regards the German Federal Republic as a part of Germany. The other part of Germany is the German Democratic Republic . . . the question

[7] *Der Spiegel*, Hamburg, No. 36, 1955.
[8] *Pravda*, September 12, 1955.
[9] *Izvestia*, September 14, 1955.
[10] *Ibid.*
[11] *Neue Zürcher Zeitung*, September 15, 1955.

of the borders of Germany was solved by the Potsdam Declaration . . . and the German Federal Republic exercises its jurisdiction in the territory over which it has sovereignty.[12]

Soviet policy was made even clearer in the talks with the German Democratic Republic. They were completed with the signature of a treaty on mutual relations, an exchange of letters on border control and the control of relations with West Berlin, and with a final communiqué signed by the two governments. The treaty was almost a word-for-word repetition of the Soviet declaration of March 26, 1954, by which East Germany was given her "sovereignty." One difference, however, was to be found in the points made in the exchange of letters and in the fact that the agreement did not mention any Soviet guarantees on the defense of East Germany, such as those which the Soviet Union had retained (under the terms of the Potsdam Agreement) in its 1954 declaration. The exchange of letters established the transfer to the East Germans of control over the borders and communications with West Berlin. The treaty provides for the temporary retention of Soviet forces in East Germany (under Point 4) but mentions no time limit.

The chief point in the treaty was the first. It gives the German Democratic Republic the right to have relations with foreign countries, including the Federal Republic.

Thus, the Soviet position at the foreign ministers' conference has already been prepared. Any attempts by the Western allies to link the German problem with questions of European security and disarmament will be parried with the Soviet objection that the sovereign East German government is empowered to deal with this problem and that bilateral talks between Bonn and Pankow are essential to solve an "internal" German problem. The transfer of border control and of communications with West Berlin gives East Germany a method of exercising pressure on Bonn to compel the latter to take up relations with East Germany. Thus, for example, if the East German government repeated the Berlin blockade of 1948 the USSR would refuse to discuss the matter with the Western powers as being outside its competence. Direct negotiations would then have to be conducted with the Grotewohl government.

In the author's opinion, it is clear that the recent talks, as the conference of the four chiefs of government at Geneva, were a success for Soviet diplomacy. The reasons for this success are worthy of consideration. It was achieved due to the favorable starting position which the Geneva Conference created for the Soviet Union. In an article on the results of the Geneva Conference the author stated that any relaxation in international tension after the conference which was not backed up by any real guarantees of Soviet willingness to make genuine concessions could be of profit only to the Soviets.[13] The talks in Moscow clearly confirm this statement, since they showed that smiles and politeness do not in-

[12] *Izvestia*, September 16, 1955.

[13] *Ezhenedelny obzor vazhneishykh sobytii v SSSR* (Weekly Review of the Most Important Events in the USSR), Munich, Nos. 64—65, 1955.

dicate, as some Western observers have maintained, that the unchanging aims of Communism have been rejected by the Soviets. Therefore the results of Chancellor Adenauer's talks with Moscow were determined not during the talks themselves but at the Geneva Conference. *N. Galay*

The Economy

Preliminary Results of the Soviet Grain Harvest

The spring sowing campaign was marked this year by changes in location and an expansion of seeded areas. Corn occupied a significant place in the system of crop rotation, the total area sown with corn reaching 17.9 million hectares compared with 4.3 million hectares in 1954.[1] The area sown with spring wheat, potatoes, flax fiber and sugar beet has increased. In the Volga region the area of grain crops (millet for example) has also risen considerably. The extension in the area sown has taken place by cultivating virgin and idle lands and also at the expense of low-yield crops such as oats, barley and certain root crops. Land under perennial grasses has also decreased considerably. Consequently, sowing areas (in million hectares) have been as follows:[2]

	1954	1955	Percentage Increase
Total Sown Area	164.1	183.8	12.0
Area under Grain Crops ..	114.5	136.2	19.0

As a result of the increased area, the gross grain yield should have risen considerably. If the 1955 yield is assumed to be equal to that of 1954, that is, 870 kilograms per hectare, the gross yield this year should be 118.5 million metric tons (18.9 million metric tons more than in 1954). This increase cannot have taken place, however, for the reasons outlined below.

During 1955 the weather in the areas under grain varied widely throughout the USSR. In the Ukraine, the Kuban region and to the west of the Volga the weather was favorable. However, in the central non-chernozem strip, in Belorussia, the Baltic area and the northwestern part of the country the spring was long and cold. There was a drought in Kazakhstan, in part of Siberia and even in the eastern Volga regions. The secretary of the Rostov Oblast Committee, Kiselev, wrote that the eastern regions had suffered from the drought and that a low-yield harvest had been gathered.[3] Kazakhstan had not had such a severe drought for 40 years.[4] The weather must therefore have affected the harvest considerably this year.

The basic reason for the high grain losses has been the prolonged harvesting periods resulting, in some years, in losses as high as 20% of the harvest. The harvest has sometimes lasted months, with grain standing in the fields far too

[1] *Sotsialisticheskoe selskoe khozyaistvo*, Moscow, 1955, No. 5, p. 13.
[2] *Pravda*, October 4, 1955; *V Konferentsiya Instituta* (The Fifth Conference of the Institute), Munich, 1955, p. 23.
[3] *Partiinaya zhizn*, Moscow, 1955, No. 17, p. 11.
[4] *Komsomolskaya pravda*, Moscow, August 6, 1955.

long and the ears falling both before and during the harvest. The great extent of losses can be seen from information printed by the Southeastern Agricultural Institute in Saratov: "If there is 17 days' delay in the rye harvest, losses reach 24% when the rye is reaped with ordinary machines and 19% when combines are used."[5] In order to avoid grain losses this year, combines and their personnel were sent from various regions to the Ukraine, the Kuban and Volga districts. The wide scale of these transfer operations is illustrated by the following report: "The state is rendering the harvest considerable aid in the Volga regions. Combine operators and their machines have arrived here from the Yaroslavl, Kalinin, Ivanovo and other regions of the country. Factories in Saratov, Kuibyshev and Tula have sent . . . equipment for . . . harvesting the crops."[6]

Simultaneously thousands of workers were sent from the towns to the kolkhozes and sovkhozes to gather in the harvest, as well as trucks to deliver the grain to the storing places. For example, more than 2,000 trucks and over 30,000 workers and employees were sent by the town of Saratov to aid the corn-growers in the oblast.[7]

In order to save time the staggered harvesting system was introduced this year. This consists of reaping crops before they are ripe and of gathering them in shocks where they are allowed to ripen. They are later threshed by combine and threshing machines. Thus, the reaping area is reduced before the crops fully ripen. This measure was proposed to reduce the load on the combines and to lessen the time needed to harvest ripe crops. Agricultural leaders demanded that the staggering be employed everywhere, asserting that the yield would in this way be increased. The following example of the profitability of this method was given: "The Nineteenth Party Congress Kolkhoz in Krasnoarmeisk Raion of Saratov Oblast collected 11.5 centners [1.15 metric tons] per hectare using the staggered system and only 7.4 centners [740 kgs] per hectare using the direct combine method."[8]

In general, however, as Soviet press reports show, staggering has not reduced the harvesting time significantly nor has it saved the crops from considerable losses. Grain which had been reaped lay for weeks in the shocks, was out in the rain, germinated and the kernels lost weight. There were cases when the kolkhoz and sovkhoz managers did not see that the grain had fully ripened and that direct combine harvesting could be carried out. In many places at the insistence of the Party leaders kolkhozes were carried away by the desire to "cut down the grain" in the shortest possible time. Losses were especially great in cut grain affected by the rain. For example, in Vyazovka Raion of Saratov Oblast rye reaped on two thousand hectares lay in the fields for three weeks . . . and, having been out in the rain, lost 20% of its weight."[9]

Thus the staggered harvest, on which the Soviet leaders placed such great hopes, has not justified itself. Because of the shortage of threshing machines the

[5] *Selskoe khozyaistvo*, Moscow, August 6, 1955.
[6] *Pravda*, September 13, 1955.
[7] *Selskoe khozyaistvo*, Moscow, September 24, 1955.
[8] *Ibid.*, August 6, 1955.
[9] *Ibid.*

staggered harvest increased the load on the combines. Considerable losses are also incurred due to the inadequacy of Soviet agricultural machinery. Since Soviet combines are outmoded and not adapted to clean the grain fully it must be sent to threshing floors to be dried and cleaned. Only then can it go to the storehouses and elevators. The American agricultural delegation was astonished by this system when it visited kolkhozes and sovkhozes. In the United States grain is sent directly from the combines to elevators.[10]

When grain has to be sent to threshing floors this leads to much greater expenditures, increasing labor requirements and losses considerably. Moreover, there are not sufficient threshing floors available. Those that have been constructed are often not covered and lack drying and cleaning equipment. The Soviet press reported that in the Barakkulsky Kolkhoz in Akmolinsk Oblast the director and manager "had permitted about 200 tons of grain to spoil. Grain losses are high because the threshing floors are poorly equipped. They are not even level and smooth as they should be. At the edges of the threshing floors there are large quantities of waste scattered about. Of this 25 to 30% is low grade grain. The waste becomes warm and begins to grow moldy."[11] In Kustanai Oblast alone, according to official data, about 5,000 tons of grain spoiled on kolkhoz and sovkhoz threshing floors.[12]

At the beginning of this year the Soviet leaders initiated a campaign to increase the network of storage bases and elevators and to bring them closer to the production regions. However, the construction program this year, as in previous years, was not fulfilled. In Kaibagora in Kustanai Oblast it was intended to construct 13 new grain storehouses, each with a capacity of 3,200 tons, but only two were built. In distant regions grain sometimes has to be transported over 200-250 kilometers. At the height of the state grain delivery season the lack of storehouses made in necessary to open reception points in the depths of the country, although there was no drying or cleaning equipment available. Consequently "the grain delivered by kolkhozes and sovkhozes is poured into pits where it often rots. In Presnogorkovka pits alone 7,400 centners [740 tons] of grain spoiled."[13]

The harvest this year showed that proper use is not made of equipment. The grain harvest throughout the country took considerably more than the ten days planned for this work, and in some places it was not completed at all. For example, in the Vändru Raion of the Estonian SSR by September 15, 1955, only 38% of the grain crop had been gathered in, in the Pärnu Raion only 40% and other raions had accomplished a little more than 50% of the planned harvest.[14]

The land administration in Irkutsk Oblast intended to harvest the grain in a month. However, the month had long since passed and even by September 25 only 54% of the harvest plan had been carried out. The basic reasons for the

[10] *Izvestia*, August 6, 1955.
[11] *Selskoe khozyaistvo*, Moscow, September 18, 1955.
[12] *Ibid.*, September 27, 1955.
[13] *Ibid.*
[14] *Sovetskaya Estoniya*, Tallin, September 17, 1955.

delays have been frequent combine breakdowns and the lack of spare parts, time wasted due to lack of fuel and the poor organization of MTS work. An example of this is provided by the Bayandai MTS in Irkutsk Oblast, which serves eight kolkhozes with a harvest area of more than 13,000 hectares. At this MTS "one third of the machinery is out of action every day due to mechanical failure. Since the beginning of the harvest, combines have lost a total of 1,330 hours working time due to breakdowns and accidents."[15]

Equipment in other oblasts is also being exploited inefficiently. At the Lenin Kolkhoz in Omsk Oblast

> in one place transportation stands waiting for grain and in another combines stand waiting for transportation . . . On the Lenin Kolkhoz less than half the grain crops have been harvested in a month. More than 3,000 hectares of grain is standing in the fields and the ears are falling. Barley losses are especially heavy. The barley ripened much earlier than the wheat, but a start has not yet been made with harvesting it. The mistakes which have been made in Lenin Kolkhoz are typical of the majority . . .[16]

The low productivity of combines is made clear by reports from other parts of the country. For example, in the Lenin Kolkhoz in Tarnopol Oblast of the Ukraine five combines harvested only 250 hectares of grain crops in a month (instead of 750-1,000 hectares possible under normal working conditions).[17] In Krasnoyarsk Krai the average productivity of an MTS combine has never been more than about half the norm, even on good days.[18] It is clear that the kolkhozniks and MTS workers have no interest in completing the harvest in the established time. Peasants who have been turned into kolkhozniks do not feel that the harvest is a time when special effort is required. The kolkhoznik is often indifferent to the appeals of Communist propaganda. Combine crews at the Marshansk MTS in Novosibirsk Oblast, for example, are described as follows: "Twelve combines are working in the fields, but their collectives are not fulfilling the norms. Instead of 150-200 hectares, the kolkhoz is only harvesting 50-60 hectares. The ears have begun to fall."[19] Another example is provided by the Zhdanov Kolkhoz in Krasnoyarsk Krai. Many people arrived from the towns for the harvest. However, at this kolkhoz about 40 members of the Second Field Workers' Brigade were engaged on their own private plots, and a group of young persons were playing games across from the kolkhoz office."[20] The kolkhozniks' attitude to work is clear from the following: "It was already ten o'clock in the morning and not a single kolkhoznik had yet arrived for work. Only the grain cleaner and the drier were working and they were being operated by townspeople who had come to help the kolkhoz. Unfortunately this situation can be observed on other threshing floors too."[21]

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[15] *Selskoe khozyaistvo*, Moscow, September 28, 1955.
[16] *Ibid.*, September 15, 1955.
[17] *Pravda Ukrainy*, Kiev, August 27, 1955.
[18] *Selskoe khozyaistvo*, Moscow, September 16, 1955.
[19] *Ibid.*, September 6, 1955.
[20] *Ibid.*, September 24, 1955.
[21] *Ibid.*, September 16, 1955.

There can be no doubt that since the harvesting campaign has been delayed considerably in the eastern regions a certain part of the harvest will be covered with snow and a large amount will be harvested with great losses. In many regions grain was still standing in the second half of September, although as early as September 6 it was "cold in Western Siberia and raining in many regions. In Omsk and Novosibirsk the day temperature was 10—12° [Centigrade], and in Tobolsk and Barnaul 7—8°. In many regions there was freezing temperature on the night of September 4."[22] By September 28 the daily temperature in Siberia and in the north of Kazakhstan was 3—4° and at night was below freezing. Snow was falling in many regions and in places there was a light covering of snow on the ground.[23]

In Belorussia and the Baltic regions the first freezing occurred on September 23.[24] In such conditions attempting to harvest grain crops would not be worth the effort expended.

Until recently the Soviet press was careful to hide the fact that there had been a drought in Kazakhstan and part of Siberia. However, on September 3, 1955, *Pravda* wrote: "A dry, rainless spring and a hot summer with burning winds have affected the virgin lands of Kazakhstan . . . The grain harvest is not so abundant and generous as last year, but the grain has nevertheless been grown." On June 27, 1955, *Komsomolskaya pravda* was more honest, reporting: "The short night gives way to the mercilessly hot day. The steppe does not fully cool down overnight and is again made burning hot. The temperature is 43° from the morning on. A tractor cabin is a real inferno. The land dries and hardens like stone."

A normal harvest cannot be grown and gathered on such land. It is impossible to protect large areas sown with grain crops from severe drought. However, the Soviet press asserts that "even in the regions where there was severe drought the leading kolkhozes, MTS and sovkhozes successfully overcame the difficulties and are now gathering in a harvest which is not too bad at all."[25] The newspaper does not divulge the secret of "overcoming the difficulties successfully."

In order to reduce the effects of the drought the Soviet leaders consider it necessary to adapt machines for harvesting the grain before it is fully ripe. On August 9, 1955, *Selskoe khozyaistvo* reported that in many places "the grain has grown stunted and has to be reaped at a height of not more than 7—10 centimeters. The stunted grain ripens unevely and there are many underdeveloped kernels. When normally winnowed these are carried away with the chaff . . . The combines are not adapted for harvesting the stunted grain. Grain losses reach 20—25% of the total." The article recommends that combines be adapted to make use of the light-weight grain together with the normal grain.

[22] *Ibid.*, September 6, 1955.
[23] *Ibid.*, September 28, 1955.
[24] *Sovetskaya Belorussiya*, Minsk, September 23, 1955.
[25] *Selskoe khozyaistvo*, Moscow, September 22, 1955.

The subject of harvests was dealt with by the Minister of Sovkhozes Benediktov in a lecture at the Ministry of Foreign Affairs for foreign diplomats. He attempted to convince them that the harvest had "not been bad at all." According to him the average yield per hectare on the virgin lands in 1954 was one metric ton and would be a little lower this year, varying between 0.5 and 1.5 metric tons per hectare.[26] This rather hazy report was an attempt to camouflage the true state of affairs in Siberia and Kazakhstan.

At the January Plenum of the Soviet Communist Party Khrushchev set the task of bringing the gross output of grain up to 160 million metric tons. Great hopes were placed on the virgin lands. However, because of the drought, it is difficult to say whether total grain production will increase this year or not. In a report from the Ukrainian SSR on the fulfillment before schedule of the state grain delivery plan it was mentioned that the kolkhozes and sovkhozes would this year give the state 74 million poods [1.2 million metric tons] more than in the year of best yield, 1952."[27]

The Central Statistical Administration Report stated that, according to information provided by the State Inspection Commission for the 1952 harvest, the total grain production in that year should have been 131 million metric tons.[28] However, in view of the fact that this type of estimate is made when the grain is standing in the fields and since there are considerable losses in harvesting, the actual harvest should be considered at least twenty per cent lower than this figure, that is, no more than 105 million metric tons.[29]

It is possible that the Ukraine will deliver the 1.2 million metric tons, but it is by no means certain that other areas will match this increase. In view of the drought, the considerable reduction in the area sown with oats and barley, as well as the enormous losses at harvest time, the total grain yield this year will probably not exceed the 1954 figure (105 million metric tons) despite the increase in the area sown with grain.

In order to hide the poor results of the current agricultural year it is possible that a larger total grain production will be reported this year than was actually achieved. To this end preparations are presently being made to include in total grain output the contents of silos with unripe ears of corn including cobs. For example, *Selskoe khozyaistvo* noted on September 18, 1955, in an article entitled "A New Method of Planning in Action": "Additionally a large quantity of cobs is being preserved. In terms of dry grain each hectare now gives 40 centners [4 metric tons] of corn."

Numerous reports show that up to the present only the Crimean Oblast fulfilled its state grain deliveries on schedule as well as its supplementary obligations and the sale of grain to the state. About 429,000 metric tons of grain were delivered.[30] This figure makes it possible to calculate roughly how much grain

[26] *Neue Zürcher Zeitung*, October 4, 1955.
[27] *Pravda Ukrainy*, Kiev, August 21, 1955.
[28] *Pravda*, January 23, 1953.
[29] S. Prokopovich, *Narodnoe khozyaistvo SSSR* (The Economy of the USSR), New York, 1952, vol. I, p. 135.
[30] *Pravda Ukrainy*, Kiev, September 23, 1955.

the states takes from gross production in all types of deliveries (state deliveries, purchases and payment in kind for MTS work).

Officially published figures show that total output in the Crimea in 1932, 1933 and 1934 (years with a high total grain yield) were 617,100 metric tons, 845,300 metric tons and 602,300 metric tons respectively.[31] The average annual harvest was therefore about 688,000 metric tons. The government therefore extracted about 60% of the total grain harvest from the Crimea.

It may be assumed that the state will increase the percentage of state deliveries this year in order to build up its own reserves. The payment of workday units in grain will not increase this year and may even be curtailed somewhat. The kolkhozniks may be paid in corn cob silage assessed as full-value grain.

The harvest was accomplished with great difficulties. It was complicated by the technical backwardness of the harvesting combines, the low productivity of labor as well as by disinterest in the results and on occasion by the covert resistance of kolkhozniks to Party and government measures in agriculture. The agricultural crisis in the Soviet Union continues. *S. S. Kabysh*

[31] *Selskoe khozyaistvo SSSR* (The Agriculture of the USSR), Moscow, 1936, p. 271.

The Soviet Peat Industry

Although not a very important fuel in Western countries, peat has always played a significant role in the economy of the USSR. The Soviet government has been compelled to devote special attention to this industry because the coal, petroleum and gas industries are unable to satisfy the country's fuel needs. The Chief Administration of the Peat Industry, which controls the richest peat resources and is itself controlled by the Ministry of Electric Power Stations of the USSR, is at present taking several measures to increase peat extraction.

In the first quarter of this year, that is, before the beginning of the peat cutting season, a large-scale conference of peat industry workers took place, with delegates arriving from all parts of the Union. Since the beginning of this year the official organ *The Peat Industry* published by the Ministry of Electric Power Stations, has been calling upon the peat trusts and enterprises to perform ever more difficult large-scale tasks.[1] The general press has also been devoting considerable attention to this problem.

According to the 1950 plan the proportion of peat in the Soviet fuel balance was 6.2%, almost the equivalent of petroleum—6.3%.[2] The importance of peat is therefore much greater in the USSR than in other countries, where the peat industries have suffered heavily from competition with coal. The USSR possesses rich peat deposits and is compelled by the absence of adequate coal and petro-

[1] See particularly *Torfyanaya promyshlennost*, Moscow, 1955, No. 1, pp. 1—3; No. 2, pp. 1—4; No. 3, pp. 6—7.

[2] B. A. Rozentreter, *Kamenny ugol, ego znachenie v narodnom khozyaistve* (Coal and its Significance in the National Economy), Moscow, 1949.

leum to exploit them to the fullest extent. World resources of peat amount to 261.4 billion tons, of which 158 billion tons or 60%, are in the USSR.[3] If Soviet resources were dried until they had a moisture content of 30%, then Soviet deposits would be equivalent to 63.2 billion tons of standard fuel (with a caloric value of 7,000 kilogram calories per kilogram).

In the Soviet Union peat bogs may be divided into two types. The first, the "lower" type, are fed with ground and soil water. In such bogs sedge, horsetail, cane, green mosses and other plants grow. When they die they become the "lower peat" types, such as sedge peat. In comparatively high areas "upper bogs" are formed which receive their moisture from the atmosphere. In such places mosses ultimately become "upper type peat." Peat is formed by a gradual process of decay in plants when there is an excess of moisture and a lack of oxygen. The peat formation process is analogical to that of coal, with the difference that peat is an early product in the carbonization of organic matter. In the peat formation process tarry and waxy substances with a high caloric value are formed from the cellular tissue of the plant. In comparison with the original plant material peat has therefore a greater heat-producing capacity.[4]

The table below shows the distribution of peat in the various economic regions of the Soviet Union:[5]

Soviet Peat Resources on January 1, 1937
(In Metric Tons)

Soviet Union	145,300,000
RSFSR	140,000,000
European North	30,940,000
Leningrad Oblast	6,930,000
Kalinin Oblast	1,840,000
Smolensk and Orel Oblasts	620,000
Moscow, Tula and Ryazan Oblasts	600,000
Ivanovo and Yaroslavl Oblasts	1,470,000
Kursk, Voronezh and Tambov Oblasts and the Mordvinian ASSR	150,000
Kirov Oblast, the Tatar and Udmurt ASSR's	1,130,000
Gorky Oblast	830,000
Kuibyshev Oblast	70,000
Sverdlovsk Oblast	3,600,000
Chelyabinsk Oblast	650,000
Bashkir ASSR and Chkalov Oblast	140,000
Omsk Oblast	39,380,000
Novosibirsk Oblast	37,500,000
Eastern Siberia	13,780,000
Far East	380,000
Ukrainian SSR	2,640,000
Belorussian SSR	2,670,000

If it were possible to exploit and dry all the above resources, peat would be of enormous importance as a fuel, since one hectare of peat provides as much fuel as 25 hectares of forest. In fact, however, the peat resources in the European

[3] A. Zvorykin, *Ocherki po istorii sovetskoi gornoi tekhniki* (An Outline of the History of Soviet Mining Techniques), Moscow, 1950, p. 327.

[4] *Bolshaya sovetskaya entsiklopediya* [BSE] (The Large Soviet Encyclopedia), 1st ed., LIV, 598.

[5] *BSE*, 1st ed., LIV, 602.

North, in Omsk and Novosibirsk Oblasts and also in the Far East (these four areas together containing about 121.6 billion tons or roughly 77% of all Soviet peat) can only be exploited to a limited degree for the Soviet economy under present conditions of artificial drainage and the climatic limitations imposed on air-drying.

Peat can be considered a suitable fuel only when its moisture content does not exceed 33%. A rise in humidity above this level leads to a sharp and disproportionate diminution in its quality and heat-producing capacity. With a 30% moisture content the heat value is between 3,000 and 3,400 calories per kilogram. If, however, the moisture content is between 45% and 50% the productivity of boilers using the fuel is reduced from 25% to 50%.[6] For these reasons the peat industry has been developed principally in the European part of the USSR and in the Ural region, not farther north than the 60th parallel, where a normal (comparatively rainless) summer makes it possible to air-dry the peat to the required degree of moisture content.

Even before the Revolution peat was commonly used as a fuel (by the textile industry, for example, in the central regions). After the Revolution Lenin showed special interest in the fuel potentialities of peat and in December 1917, by a government decree the Shatura Construction Project was promoted to ensure peat supplies to the future Shatura Electric Power Station. April 1918 saw the foundation of the Chief Committee on Peat in the Fuel Section of the Supreme Economic Council (VSNKh). A government order was issued on "The Exploitation of Peat Fuel." The Chief Committee for Peat was given the following responsibilities: (1) Inspection and Calculation of Peat Deposits, (2) Construction and Exploitation of Peat Enterprises, (3) The Establishment of Peat Research Organizations.

Towards the end of 1919 Lenin wrote to G. Krzhizhanovsky to draw the latter's attention to peat deposits as a basis for supplying industry with fuel and as a solution to the fuel crisis. In the long-term plans of the Soviet government of the time, peat already figured large. The Plan of the State Electrification Commission (GOELRO), confirmed in 1920 at the Eighth Congress of Soviets, envisaged the construction within approximately 15 years of several large electric power stations which would run on local peat. In order to supply them it was planned to increase the extraction of peat by ten times in comparison with that of 1913.[7]

In view of the considerable increase in peat production the Klasson Electric Power Station was greatly expanded and a source of fuel was created which made possible the construction of the Shatura Electric Power Station in Moscow Oblast, of the "Red October" and Dubrovsky Electric Power Stations in Leningrad Oblast, of the Belorussian, Yaroslavl, Ivanovo, Gorky and other stations in the peat regions of the European part of the USSR. In 1937, power stations burning peat were producing about one fifth of all electrical energy generated in

[6] *Sovetskaya Belorussiya*, Minsk, July 8, 1955.
[7] *Torfyanaya promyshlennost*, Moscow, 1955, No. 3, p. 5.

the Soviet Union. Due to increased requirements for power stations the production of peat in 1945 was 25 times greater than in 1920, when the State Electrification Plan was confirmed. According to the Large Soviet Encyclopedia, in 1945 the total capacity of Soviet electric power stations using peat as a fuel was greater than that of any other country in the world.[8]

The increase in peat extraction was directly linked with the greater degree of mechanization in the industry. Until 1917 only two types of peat extraction, based principally upon manual labor, were practiced. Shortly before World War II mechanized methods of extraction became quite widespread in the USSR.

The hydraulic method, which is also called the R. E. Klasson system, consists of extracting the peat by washing away the deposit with a stream of water at a pressure of up to 20 atmospheres. The stream of water which leaves the hydraulic excavator (the monitor) breaks up the peat deposit into very small parts, transforming it into a watery mass which separates easily from the tree stumps. This mass is sucked out of the area by peat pumps, passes through a grinder into a reservoir, from which it is delivered by pump to the drying ground. When the watery mass becomes more or less plastic it is cut up into blocks, which are stacked for drying in the open air.

The cutting method, which is also widespread abroad, was first employed in the Soviet Union in 1930. It consists of the following operations: (1) Cutting of the surface of the deposit until the peat is friable, (2) Drying it on the surface of the deposit, (3) Stacking of the friable peat which has been dried. The cutting, usually to a depth of 15 to 20 centimeters, is carried out with special cutting drums working from tractors. The average productivity of a tractor with a drum trailer is about two hectares per hour. When dried, the peat is collected by a machine which resembles a snow plow.

The machine-elevator method consists of loading the peat obtained from the deposit onto an elevator which delivers it to a peat press. Here the peat is mixed and formed into briquettes which are then air-dried.

By the dredging method peat is mechanically extracted from the bog with an endless scoop chain. The peat is dried in the open.

The choice of methods used in extraction depends on the climatic and geographic character of the region. In the central regions, where there are large deposits of "lower type" peat bogs, the cutting method is principally employed. In Belorussia, Leningrad Oblast, the Baltic lands and other regions of the northwest as well as in the northeast of European Russia, where upper type bogs are common, the cutting method is unsuitable. The large number of rivers, lakes and reservoirs available makes the hydraulic method easier. The cutting method is very dependent on good climatic conditions, since the friable peat surface quickly becomes saturated with moisture. This method is therefore unsuitable when the cutting reason is rainy.[9]

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[8] *BSE*, 1st ed., LIV, 602.

[9] A. Zvorykin, *op. cit.*, pp. 327—37; P. Stepanov, *Geografiya promyshlennosti SSSR* (The Geography of Industry in the USSR), Moscow, 1955, pp. 83—86.

In order to make peat extraction independent of the climate and seasons and to set the industry on a year-round basis, artificial dehydration has acquired great importance. This makes it possible to develop the massive peat deposits in the European North, in Siberia and the Far East. The natural moisture content of freshly extracted peat is between 88% and 92%, whereas the required moisture content is from 30% to 35%. The action of hard water, gypsum, lime and several other chemicals tends to dehydrate the peat. During the First Five-Year Plan the first Soviet experimental plant was constructed. It prepared dry briquettes from a wet peat mass within two hours after the peat was removed from the deposit. In 1939 the Eighth Party Congress decreed that provision be made for the "construction of plants for artificially dehydrating peat, as the first step in eliminating the seasonal nature of peat extraction."

In 1941 the first dehydrating plant opened in Boksitogorsk in Leningrad Oblast. The plant operated on the thermomechanical system. First the raw peat is air-dried to a moisture content of 72% to 75% and is then processed in autoclaves at a temperature of 185° C.

After steaming, the peat is put in hydraulic presses at a pressure of 100 atmospheres until it reaches the required moisture content of 37%. The waste products are used for preparing tars, plastics, lacquers, ethyl alcohol, etc.[10] Despite the good results achieved by this method of dehydration and the existence of several such plants in the Soviet Union, the method is complicated and the necessary equipment is lacking so that it has not been developed to any significant extent.

Five years ago artificial dehydration was looked upon by the Soviet government as the basic method for bringing about a rapid increase in peat extraction. At the time the Soviet expert Prof. A. A. Zvorykin wrote:

> The artificial dehydration of peat, first carried out in the USSR, has a great future and is leading to a genuine technical revolution in the peat industry. For the first time in history the task has been set in the Soviet Union of organizing year-round production of peat fuel.[11]

However, the promised revolution in the peat industry has not yet taken place and peat extraction continues to be seasonal. Consequently every rainy summer (such as in 1953) leads to non-fulfillment of the production plan.

The coking and gas production potentialities of peat increase the possibility of using the fuel even in the metallurgical industry. If this could be done on a large scale, ferrous metallurgy in the central and northwestern regions would profit considerably. Moreover, a liquid motor fuel suitable for use in Diesel and gasoline motors can also be obtained from peat. However, as the All-Union Conference of Peat Industry Workers showed, these additional possibilities in the exploitation of peat are still in the experimental stage, and are not yet of any importance in the Soviet economy. The comparatively low rate of increase

[10] A. Zvorykin, *op. cit.*, pp. 331—32.
[11] *Ibid.*

in extraction provides further evidence that peat is at present only of significance as an industrial fuel in power stations and the home.[12]

It is very difficult to determine the yearly production of peat because the reports of the Central Statistical Administration do not include this fuel in their statement of percentage increases in output. They only state the percentage fulfillment of plan in any given year. It has not therefore been possible to calculate absolute figures for the USSR as a whole from 1951 to 1954. Moreover, the reports of the Statistical Administrations of the RSFSR and Belorussia consider only the production increase of peat briquettes, which form only a part of total production. The figures quoted by the official journal *Torfyanaya promyshlennost* include only peat enterprises controlled by the Ministry of Electric Power Stations. For these reasons the same degree of accuracy cannot be achieved in estimating the production of peat as that of coal, petroleum and natural gas:

Peat Production

	Production in Million Tons	Percentage Fulfillment of Plan
1913	1.69	—
1914	1.75	—
1918	1.09	—
1921	2.02	—
1928	5.32	—
1932	14.79	—
1933	13.22	—
1934	16.75	—
1937	24.90	—
1938	26.46	—
1940	32.00	—
1946	26.97	—
1950 (Plan)	44.30	—
1950 (Actual)	45.40	—
1951	—	113.9
1952	—	97.9
1953	—	91.5
1954	—	105.0
1955 (Plan)	57,70	—

Peat production at the beginning of the First Five-Year Plan had risen 3.1 times in comparison with 1913, 8.7 times at the beginning of the Second Five-Year Plan, 14.7 times at the commencement of the Third and 18.9 times in 1940. During World War II the peat industry, despite the loss of some of the western and northwestern peat regions, was able to keep nearby electric power stations and enterprises supplied with peat, thus easing the fuel crisis. The Fourth Five-Year Plan provided for a 39% increase compared with 1940 to bring production in 1950 up to 44,300,000 tons. The Fifth Five-Year Plan (1951-1955) provides for raising peat extraction by 27%. Thus, if the plan is fulfilled, Soviet

[12] *BSE*, 1st ed., LIV, 603—4; *Zakon o pyatiletnem plane vosstanovleniya i razvitiya narodnogo khozyaistva SSSR na 1946—1950. Zasedaniya Verkhovnogo Soveta SSSR, stenograficheskiy otchet.* (The Law on the Five-Year Plan for the Rehabilitation and Development of the National Economy of the USSR. Sessions of the Supreme Soviet of the USSR, Stenographic Report). Moscow, 1946, p. 369; A. Zvorykin, *op. cit.*, p. 327; P. Stepanov, *op. cit.*, pp. 327—37; *Torfyanaya promyshlennost*, Moscow, 1953, No. 1; 1954, No. 7; 1955, Nos. 1, 3, 5.

peat production in 1955 will be 57,700,000 tons. The Fourth Five-Year Plan for peat was fulfilled by 102.4%. The plan for the first four years of the Fifth Five-Year Plan (for the peat industry of the Ministry of Electric Power Stations) was also overfulfilled. The failure to meet the 1952 and 1953 plans (97.9% and 91.5% respectively), which occured as the result of unfavorable climatic conditions, was compensated for by overfulfillment of the production tasks in 1951 and 1954 (113.9% and 105.0% respectively). In 1955 the Chief Administration of the Peat Industry intended to extract 2,400,000 tons more than in 1954.[13] Thus, the peat production increase provided for in the Fifth Five-Year Plan (the increase should be 12,300,000 tons) may quite well be achieved.

The greatest part of available peat in the USSR is in the European regions of the USSR. In 1950 the relative importance of union republics in the peat extraction plan was as follows:[14]

	Production (Metric Tons)	Percentage of Total Output
USSR Total	44,300,000	100.0
RSFSR	34,200,000	77.3
Ukrainian SSR	2,500,000	5.6
Belorussian SSR	4,160,000	9.3
Lithuanian SSR	820,000	1.9
Latvian SSR	560,000	1.3
Estonian SSR	320,000	0.7
Kazakh, Kirghiz, Karelo-Finnish SSR's, and others	1,740,000	3.9

Despite the intended increase in 1955 to a total of 57,700,000 tons, the relative importance of union republics remains roughly the same.

The change in methods used in extraction and the greater degree of mechanization being progressively introduced indicates the increased importance of peat as one of the basic types of fuel for industry and power plants. The cutting method is rapidly displacing all others, being the most efficient. By 1960 about 75% of all peat will be produced by this method as compared with 19,5% in 1946. It provides the fuel required by thermal electric power stations which work on peat. The policy of introducing this method will result in less peat being produced for the home and will consequently lower the standard of living in those regions (Ivanov, Yaroslavl, Kalinin, Gorky Oblasts, the Baltic regions and the Belorussian SSR) where peat plays an important role as a domestic fuel.

There are good reasons for the importance at present attached to peat as an industrial fuel. Serious errors in Soviet long-term planning in the European part of the USSR have led to a shortage of fuel supplies for enterprises in the European regions. Even *Pravda* admits:

> As a result of shortcomings in the location of enterprises disharmony has arisen in the development of the economy in individual economic zones of the USSR. In particular, a lack of fuel, electrical energy and various raw materials is experienced in the European part of the country. While up to three quarters of industrial pro-

[13] *Torfyanaya promyshlennost*, Moscow, 1955, No. 1, p. 1.

[14] Stenographic Report of Supreme Soviet Session on Five-Year Plan, Moscow, 1946; *Economicheskaya geografiya SSSR, pod redaktsiei P. Zhurida i N. Kovalevskogo* (Economic Geography of the USSR, edited by P. Zhurid and N. Kovalevsky), Moscow, 1934.

duction is concentrated in the European regions of the USSR, in 1954 only a little more than 50% of total Soviet coal output was mined there.[15]

However, the attempt to compensate for the lack of coal by increasing peat extraction may have undesirable consequences in the economy during the next few years. In the European part of the USSR, as a result of the approaching exhaustion of peat resources, a gradual decrease in peat production must be reckoned with during the Sixth Five-Year Plan.[16] The increased capacity of peat-fueled electric power stations and the resulting sharp rise in peat consumption, has led to uneconomic peat transportation over long distances. While in 1930 the maximum transportation distance for peat was 20 kilometers, in 1945 it had reached 100 kilometers, and in the case of certain electric power stations 350 kilometers or more. The intended exploitation of large reserve peat deposits will require much preliminary work and great capital investment. Moreover, transportation distances will increase to 200—300 kilometers. When work on new deposits begins the technical and economic performance indices in most peat trusts will drop considerably. Peat enterprises will be forced to begin exploiting low quality peat with a high ash content. The development of the new deposits will necessitate expensive and complicated drainage of large areas as well as the construction of new railroads. Consequently the price of peat will rise sharply with increased transportation costs. Moreover, the country's transport system will be even more burdened. The Chief Administration of the Peat Industry calculates that while in 1955 the railroads would transport 39% of total peat production, in 1960 this figure will increase to 48% and, in 1985, would be as high as 84%.[17] Consequently peat will lose its advantages as a cheap local fuel.

Despite the fact that for the time being the problem of cost is of less importance in the USSR than in the western countries there is every reason to believe that the great distances between peat deposits and the consumers will lead to such high prices and to such great losses that electric power stations will be compelled to abandon its use. The cost, coupled with the relatively low caloric value of peat, would make its use totally unprofitable.

The outlook for peat extraction is already an object of serious concern in Soviet official circles. However, for the present at least the peat industry continues to play an important part in the Soviet fuel balance. *G. A. Vvedensky*

[15] *Pravda*, August 30, 1955.
[16] *Torfyanaya promyshlennost*, Moscow, 1955, No. 5, pp. 14—16.
[17] *Ibid.*

REVIEWS

Kommunist

Organ of the Central Committee of the Communist Party of the Soviet Union. Published by PRAVDA. Nos. 12 and 13, 1955

The leading Party press has always paid considerable attention to questions of foreign policy. As a rule the articles devoted to this topic fall into two completely different categories, the first characterized by sharp attacks on the politics of the countries of the free world, focus deliberately being turned onto the trouble spots, the other dealing with the countries of the Communist bloc, with emphasis on praise of achievement.

At the moment, Soviet propaganda has found a means for combining the two trends of Communist policy in the so-called spirit of Geneva, a catchword which is used by the Soviets to disarm their ideological opponents and improve their own position in international politics. They have met with considerable successes in this respect.

The leading article in No. 12 of *Kommunist* is a good example of their tactics. Entitled "International Problems Must be Solved in the Spirit of Geneva," it begins:

> The Geneva conference of the heads of government of the Soviet Union, the United States of America, Great Britain and France laid the foundation for a new stage in the improvement of international relations on the basis of peaceful coexistence and the establishment of trust between states, independently of their political and social structure. The very fact that such a conference was convened after a ten year interruption bears witness to the weakening of the position of the reactionary forces and the strengthening of the positions of the forces of peace.

After this general evaluation, the article formulates the Soviets' aspirations: "The nations, with complete justification, see in the Geneva conference the beginning of the end of the accursed 'cold war,' and they are fully resolved to do everything to put a complete end to it as quickly as possible."

It is perhaps significant that the word "nation" makes no qualifications as to state system. This permits the closest possible connection between the slogans "Peace Throughout the World" and "The Spirit of Geneva." The article continues: "The preservation of the spirit of Geneva, the spirit of cooperation and mutual understanding seem a pledge for the future of fresh progress in the examination and regulation of important international problems."

This statement is given added weight by a reference to Bulganin's speech on the same lines delivered at a meeting of the Supreme Soviet in February. The firm conviction is expressed that only now can there be any solution to the problem of European security. The conference is viewed as a turning point in international relations. Particular attention is given to the Soviet interpretation of the German question.

It is stressed that the countries of the Communist bloc have accepted the decisions reached at the conference without any reservations and will conduct

their foreign policy in this spirit: "As for the Soviet Union, the Chinese People's Republic and the Democratic Republic of Viet Nam, they, as is known, are doing everything to achieve the unwavering execution of the Geneva agreements of 1954."

Thus, the spirit of Geneva has become the key phrase in the formulation of present Soviet foreign policy. However, the Soviets have not yet yielded one inch from their basic premises. They wish merely to utilize the "new friendship" to lull the alertness of the countries of the free world, to gain time and to create the impression that they are genuinely seeking peace and a way out of the cold war. Indeed, the Communist leaders have even gone so far as to say that there is no longer such a war in progress, but that a permanent armistice has been declared.

The article, "On Popular Social Political Literature," by G. Shakhnazarov, deals with the problem of educating the workers in the spirit of Communism. The author states that the most important facet of this education is the popularization of the social sciences, particularly Marxist-Leninist political economy. However, the crux of the matter is not so much economy as mass propagation of the ideas of Communism via social political doctrines. Shakhnazarov attacks a number of publications used to disseminate this propaganda. He demands that a very cautious approach be made to the problems of propaganda.

The author castigates all theoreticians who permit a free interpretation of Marxist theories. He analyzes every phrase, seeking deviations from the latest Party line. It is difficult to view this solicitude for "purity" as anything other than a campaign against all free thought.

Included in the article is an episode which the writer himself witnessed. It illustrates the method by which social political literature is ordered. The editor of a certain publication, on receiving from higher Party echelons an order to issue a particular social political work, immediately phoned a number of specialists and ordered them to write an essay on the theme given, just as though the point in question was some kind of commodity. In a short while the manuscripts were delivered and the book was published. This method is apparently typical. The fact that Shakhnazarov attacks it in no way refutes his article as a valuable document in the study of Soviet propaganda.

I. Kulev's article "The Development of Electric Power is the Basic Condition of Technical Progress" is purely technical. Equally limited in scope is A. Galenko's "Party Organizations in the Struggle for the Increase of Metal Production." There is an article by A. Khankovsky entitled "The Introduction of Progressive Methods of Harvesting is an Important Means for Increasing the Supply of Grain."

The review section contains an article by N. Abalkin, "Questions of Literature and Art in Local Party Magazines." It is designed to confirm that the Party leadership is interested in all spheres of Soviet life.

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The Soviet political barometer has been quite steady of late. Even the July Plenary Session of the Party Central Committee, which dealt with questions covering all the main lines of both foreign and domestic policy, produced no great

surprises. The session was, in fact, largely a repetition of the measures that had been adopted earlier this year. In general terms, the Party course in the past two months has been aimed chiefly at popularizing the earlier decisions, and the central press has been doing its utmost to bring them to the attention of the masses, whose active participation is essential.

In view of this tendency, No. 13 contains nothing completely new, certainly no suspicion of a change in Party policy. The only material which can be termed fresh is the leading article, "To Meet the Twentieth Congress of the Communist Party of the Soviet Union." This Congress, to begin on February 14, 1956, will summarize the progress made since the Nineteenth Congress, which took place on the eve of Stalin's death. It will also approve plans for the immediate future:

> The Twentieth Congress will discuss and approve the directives for the Sixth Five-Year Plan . . . In the new five-year plan socialist industry will make great steps forward, rising to a new level of technical perfection and considerably increasing the production of metal, fuel, machines, machine tools and consumer goods.

All the questions to be discussed at the Congress are being accompanied by encouraging commentaries. The Party's directives do not affect industry alone but also another extremely important branch of the economy, which has been the subject of numerous practical measures—grain: "The January Plenum of the Central Committee of the Soviet Communist Party set the task of achieving by 1960 an annual grain production throughout the country of at least ten billion poods [approximately 160 million tons] and increasing the livestock production twofold or more."

The methods used to reach these two goals differ. To boost industry, improved planning and continual technological progress are called for; in agriculture, the technical side is less important, while the cultivation of new lands and the introduction of new crops are emphasized.

In addition to these two main lines, the next congress will deal with many features of lesser importance which are now being discussed at length in the Soviet press. There is reason to believe that the present leaders are dissatisfied with the Party apparatus as it stands since the reforms carried out by Malenkov. It is even likely that all the major shortcomings in the country's economy are being attributed to this apparatus. In view of this, the leading article describes Party organizations' election campaigns as the most responsible stage in the preparations for a Party congress. The current campaign is looked upon as a reorganization of the Party mechanism aimed at eradicating all its shortcomings and bringing it into the desired shape:

> The Party is taking a firm line on a decisive improvement of the Party apparatus and its activities. This is being achieved primarily by curtailing paper work and bookkeeping, by increasing the rights of local Party organs and by granting them greater independence in the solution of all questions, including those of Party organization. This line is completely derivative from the basic principle of our Party's composition—democratic centralism, which offers firm guidance from above and complete development of local organizations' activity and independence.

Another important question which will be brought up at the Twentieth Congress is that of ideological activities, which are closely connected with the Communist indoctrination of the workers. These activities are defined as the prime obligation of Party organizations. Their theoretical basis is, of course, Marxism-Leninism. Having set the task of converting economic theory into a philosophy surpassing all other existing philosophical theories, Soviet theoreticians have taken great pains to revise truths that had been eclipsed during the Stalin era, and raise to the highest level the teachings of Lenin. This is being done to aid the present Soviet leaders in consolidating their position:

> Unwaveringly guided by the revolutionary theory, the Party is waging an implacable war against deviations from Marxist-Leninist doctrines, preserving their purity. Not long ago the Party rebuked those wailing economists whose attacks were an attempt to revise one of the basic theses of Marxism-Leninism—the primacy of the development of heavy industry. The theoretical kinks of certain economists would have led in practice to a curtailment of the rate of development of the heavy industry, to the weakening of our defense potential and to the lowering of the standard of living of the workers.

The fact that *Kommunist* has mentioned the need to keep the question of the purity of theory on the agenda would indicate that it will be reflected at the Congress. The question raised at the January Plenary Session on the methods of ideological activity and on the Party line in general will undoubtedly be treated in more detail.

The remaining articles in No. 13 are, as already mentioned, largely a repetition of the decrees published earlier. D. Nadtocheev's "The Lenin Plan for the Building of Communism in the USSR" is one of a series proclaiming the purity of the Lenin doctrines. Its basic theme is the transition from socialism to Communism. In connection with this the forms of social property, which under the Communist system must be communal, are defined. Supporting his theoretical conclusions with innumerable quotations from Lenin, the author finds these forms of property leading "to general well-being and lasting peace."

There are several articles of a practical nature. The first is V. Elyutin's "Increase the Quality of Social Science Teaching in the High Schools." It is felt that the teaching of the theoretical sciences is too vague and shallow: "Instead of a genuine struggle against dogmatism and uncritical reading, teachers of the social sciences often limit themselves to declarative phrases."

The article contains some very revealing figures: "Of the 8,617 social science teachers 36.4% have the degree of Candidate of Science. Many of them have defended theses in the past years." Consequently, almost two thirds of the lecturing staff do not have a science degree and an even smaller proportion have written theses. It would be surprising, therefore, if their work could be of the highest quality.

I. Sivolap's article "On the Reserves for Increasing the Production of Food Products" indicated that the question of food supplies has by no means been solved.

Kommunist has long had the habit of including an article on China. Sometimes it is devoted to foreign policy, sometimes to ideological changes. On this occasion, the subject is the development of industry in China during her First Five-Year Plan. In an article under that title, A. Maklakov gives a mass of figures of interest only to the economist. It is to be presumed that it is included as a source of propaganda material.

The same can be said of "The Tenth Anniversary of the Democratic Republic of Viet Nam," by V. Vasilev.

One curious point is that, although the Soviets have recently been stressing the "spirit of Geneva" *ad nauseam*, there is no mention of it whatsoever in this issue. The implication is that the Communists are interested in the new spirit only when it can be applied to foreign policy, but that it does not fit into the scheme as far as the Communist bloc is concerned.

A good, but by no means new, example of the lengths to which the Soviets will go to discredit all philosophical trends and theories other than Marxism-Leninism is I. Narsky's article "The Philosophy of Neopositivism and Science." Extremely sharp attacks are made on the exponents of non-Marxist-Leninist philosophy: "Contemporary bourgeois philosophy is distinguished by the variety of its trends. One of the reasons for this is the fact that the ideologists of imperialist reaction are seeking in every possible way such forms of idealism as would appear an active means of struggling against materialism."

After this lively beginning, the author attacks Neopositivism as a pernicious bourgeois trend. The chief culprit is the influence of idealism which leads to "false theoretical conclusions." Then follows a cunning and tendentious compilation of statements taken from the founders of Marxism, with a liberal sprinkling of quotations from the works of scholars who at the time had little or no connection with either Marxism or materialism. These include mathematicians, physicists, natural scientists, philosophers and sociologists. Every weapon is used in the attempt to prove the bankruptcy of Neopositivism. Narsky violently attacks P. Frank's *Das Kausalgesetz und seine Grenzen*, published in Vienna in 1932, accusing the author of being a subjective idealist. Similar accusations are leveled at many other exponents of Neopositivism which, although in the guise of a science, is revealed as a distorter and opponent of science. *A. Gaev*

Conference on the Goals of Physical Chemistry

On November 22-23, 1954 the Academy of Sciences of the USSR held a conference on physical chemistry attended by almost every person of repute in this field. The meetings, which were preceded by a methodological exposition lasting several months, were designed to outline a new course for Soviet physical chemistry.

Three major reports were delivered at the conference. These were "The Tasks of Physical Chemistry," by P. A. Rebinder, "The Basic Trends of Physical Chemistry," by A. N. Frumkin, and "Theory and Experiment," by B. V. Deryagin. The debates that followed revealed distinct differences between science and poli-

tics and between the leaders in these fields. The results of the conference might be described as the chemicalization of physics.

In his report Rebinder gave the three basic tasks of physical chemistry as follows:

1. The study of chemical processes and their mechanics by physical methods.
2. The study of physical processes with their concomitant chemical changes.
3. The establishment of the dependency on chemical composition of the physical properties of matter.

This formulation brought forth animated discussion in which the conflicts already mentioned were brought to light and certain differences in individual branches of the subject revealed.

Rebinder has the reputation of being very tactful. Probably because of this he was entrusted with the task of formulating the basic aims of physical chemistry in such a manner as to avoid offending the exponents of current trends. At the same time he carefully but insistently orientated them on the reorganization of their work, on the chemicalization of physics, that is, the primacy of chemistry over physics, in all probability to intensify activity in the sphere of atomic energy.

Rebinder spoke of three stages in the development of Russian physical chemistry. The first covers the second half of the nineteenth century, when thermodynamics, electro-chemistry and the theory of solutions were developed intensively. Rebinder linked their development with the demands created by the chemical industries, which were expanding at the time. This is in essence a simplified way of linking the development of physical chemistry in Russia with economic factors, thereby meeting the requirements of Marxist theories. The second stage was the first quarter of the twentieth century, during which the main task was the determining of the atomic and molecular structure of matter. The third stage goes up to the present and is characterized by the development of quantum mechanics and quantum chemistry. Rebinder particularly stressed the importance of the transmutation of atoms and the discovery of new particles. He also concentrated much attention on induced radioactivity and on the study of the fundamental characteristics of chemical reactions. All the speaker's comments were directed at proving directly or indirectly that research in the sphere of physical chemistry must be subordinated to the basic problem of atomic energy research.

Rebinder's statements are made all the more interesting when one realizes that he does not enjoy the full confidence of either the Party or the government. On the contrary, he has always been under a certain amount of suspicion, for, as a follower of English culture, he has never completely shared Communist views. Outwardly he has maintained the appearance of loyalty, but wherever possible he goes his own way. He exerted particularly strong influence on those of his pupils whom he considered reliable. Rebinder is never to be found in the Soviet delegations which, from time to time, visit the West.

It is not surprising, therefore, that his report was eclectic, diffuse and unconvincing. All that he said was trivial, designed more to serve definite political ends than to outline the proper path for the development of physical chemistry.

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In his speech, Frumkin gave what he described as the four main trends in the development of physical chemistry. The first is the examination of the structure of electron shells, detailed study of molecular structure by the use of physical methods and the further development of the structural theories of Mendeleev and Butlerov.

The last point is of particular interest, for it contradicts the other two points and falls outside the sphere of interests of Frumkin himself. For he has always been the main opponent of the structure theory not only in its classical form but also in the present, out-dated form, given it by Butlerov. He has also opposed all attempts to modernize this theory. A physicist by education, he has always considered theoretical organic chemistry void of ideas and primitive. He has frequently referred to organic chemistry as the chemistry of the kitchen, identifying it with a trade and contrasting it to science. Thus, it would seem that his acknowledgement of Butlerov's theory was not voluntary, but a manifestation of the struggle that has been going on for a considerable number of years. In this respect it is interesting to recall that for many years Frumkin was the head of various scientific institutions, but that when the Institute of Physical Chemistry of the Academy of Sciences of the USSR was formed he was removed from all leading positions. The post of director went to V. I. Spitsyn, a somewhat surprising choice in view of his comparative lack of experience and youth. However, he was the Party leaders' choice.

Frumkin described the second trend as the determination of the structure of matter. This embraces the theories of metals, semi-conductors, liquids, molecules of high molecular weight, glass, the dissolving and fusing of electrolytes, crystal structures, surface phenomena, colloids and the structure of substances at high temperatures and pressures. In this large field the last point is the one of greatest importance. It merges with the study of subatomic and submolecular processes.

The third trend covers the study of chemical reactions. The main feature is the investigation of the fundamental characteristics of chemical reactions on the basis of quantum mechanics. Frumkin dealt with the chemical action of various forms of energy. He laid special emphasis on the influence of the surroundings, and then went on to speak of the study of the violent exothermic processes, such as burning and explosion. Again, there is a distinct tendency toward giving the question of atomic energy priority.

The fourth trend is the thermodynamics of organic and inorganic compounds and of substances of high molecular weight.

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Frumkin devoted part of his report to the shortcomings of Soviet physical chemistry. His chief complaint was the slowness with which the latest physical

methods are applied to the study of the structure of matter. The primitive methods have always been the weak point in Soviet physical chemistry, and it seems as though there has been little change of late. Frumkin also considered the low level of application of quantum mechanics in chemical thermodynamics and of physical chemistry in biology a serious drawback. The question of introducing physical chemistry into medicine, physiology and biology is of interest. Physical chemical methods of study have been called on to play an important role in the solution of problems connected with the lengthening of life and the artificial replacement of body organs.

Frumkin's report is something of a contradiction. On the one hand he speaks of the need to increase activity in the theory of structure and the chemicalization of physical chemistry, while later he remarks on the inadmissible backwardness of the purely physical methods of research and concentrates his attention on the fundamental characteristics of chemical reactions and the subatomic particles. This contradiction would seem to indicate chiefly that the Soviet scientist, in order to work on the lines he wants, is obliged to make digressions from time to time along the path indicated by the Party. However, it has become increasingly more difficult to do independent research since the war because everything is being subordinated by the Party leadership to the solution of specific problems.

Frumkin mentions the need to assist industry and agriculture and to develop to the full all branches of physical chemistry in order to strengthen the country's economic and defense capabilities.. This part of his report was entirely political and devoid of special interest.

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Deryagin's speech was concentrated on one particular branch of physical chemistry—colloids. He insisted that theory could play an important role independent of practice. He has always contended that not all scientific achievements can be turned to immediate practical use, but that ultimately every important development in modern techniques is completely dependent on the development of pure science. Deryagin has been castigated on several occasions for holding such views and has even been accused of favoring theory for theory's sake. Thus, while on the whole defending the position of theory, he has on occasion had to give way to this opponents. For example, during the debate, he stated that physics und chemistry are of equal importance in physical chemistry. This is quite out of keeping with his own views. Like Frumkin, he has always despised the "chemistry of the kitchen" and has based his own work on physical methods.

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During the discussions that ensued several sharp differences of opinion were revealed. Some held that physical chemistry was theoretical chemistry; others contended that it had its own particular sphere and was entitled to be considered an independent science. The latter view had the most support. The real problem was the definition of this independent branch.

The final impression was that the Party's demands that physical chemistry be subordinated to the requirements of the narrow field of atomic energy were meeting little opposition.

Publications of the Institute for the Study of the USSR:

The Fifth Anniversary of the Institute for the Study of the History and Culture of the USSR (1950—1955). Munich, 1955, 40 pp. (In Russian).

Fünf Jahre Institut zur Erforschung der Geschichte und Kultur der UdSSR (1950—1955). Munich, 1955, 36 pp. (In German).

These brochures give a short outline of the Institute's history and a review of its activities during the past five years. It contains information on conferences, publications, the library and the Institute's connections with research centers throughout the free world.

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A. FILIPOV. Scientific Socialism and Social Science. Series I (Printed Editions), No. 22, 160 pp. (In Russian.)

Scientific socialism and social sciences are treated from the historical viewpoint. Beginning with an outline of the views held by French Utopians of the nineteenth century, the work goes on to discuss Comte's theories and concludes with the socialism propounded by Marx. The theory of surplus value is examined in detail and the differences between Marx's socialism and that of the Soviets enumerated. Much attention is given an analysis of Soviet socialism and Stalin's and Lenin's contributions to it.

The book ends with a picture of the relationship between the two elements and an exposition of the prophecies of L. Stein, G. Lebon and B. N. Chicherin on future socialism.

*

A. KOTSEVALOV. Soviet Research on the Ancient History and Culture of the North Black Sea Coast. Series I (Printed Editions), No. 19, 76 pp. (In Russian.)

Prior to World War II the author was a member of the Institute of Archeology of the Ukrainian SSR. His book is a criticism of Soviet research on the ancient culture of the Black Sea littoral region.

The work starts with an appreciation of the progress made by Soviet archeologists in the spheres of art, handicraft, epigraphy and numismatics. Then follows a review of the social history of the area as portrayed by the Soviets. The conclusion is drawn that Soviet archeology is striving to prove a number of tendentious theses advanced by the Party leaders. The most interesting of these are the desire to show that local peoples — the Scythians and the Sarmatians for example — had influenced the development of the area and played an active part in the creation of an original culture, which in many respects surpassed that of the metropolis, and the attempt to prove that the Eastern Slavs were indigenous to the Black Sea coastal regions from 3,000 B. C., not later arrivals.

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The Fifth Conference of the Institute for the Study of the History and Culture of the USSR. Munich, 1955, 304 pp. (In Russian.)

This is an account of the conference held in Munich from April 25 to April 27, 1955, on the results of the Soviets' "sharp increase" policy and the reasons for its abandonment.

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IVAN MAISTRENKO. The Crises in the Soviet Economy. Series II (Mimeographed Publications), No. 29, 124 pp. (In Ukrainian.)

The author analyzes the Soviet economy and devotes special attention to the crises which in his opinion arise in connection with the collectivization of agriculture and industrialization, or rather the militarization of Soviet industry.

The economic system of Stalinism was bureaucracy, a system of "war communism" first introduced during the Civil War. Stalin returned to this system after the collectivization of agriculture.

During the 25 years of its existence the Stalinist economic system has been unable to establish a healthy economic life which would both ensure the development of the economy and satisfy the needs of the population. Throughout the period the Soviet Union has been in a permanent economic crisis. Enforced collectivization led to the decline of the peasant's interest in the results of his work. It was therefore essential to establish an enor-

mous bureaucratic machine, both in agriculture and in industry, in order to drive the workers and peasants to work harder. The system of "socialist competition" and "Stakhanovism" which were conceived by the Soviet bureaucrats failed to give positive results.

The weak spot in the Soviet regime is agrarian overpopulation. Collectivization only made this problem more acute and brought it out into the open. Tens of millions of peasants found themselves to be superfluous under the kolkhoz system. This provided the reason for a harsh Bolshevik offensive against Soviet society in the form of resettlement and even the liquidation of millions of persons.

Postwar developments and the emergence of the atomic bomb may make wars impossible. The reflection of these developments in the USSR has been a crisis in the military economy. Stalin's death made this crisis apparent. Consequently the Soviet economy is showing a tendency to transfer gradually and carefully to a peacetime footing. To a certain extent this is taking place in an elemental way, although it is in part being furthered by government measures. However, the Soviet bureaucratic apparatus left behind by Stalin will hardly be able to demilitarize the Soviet economy.

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VESTNIK. No. 15, 1955. (In Russian.)

The first article, by A. Poplujko, is entitled "The Size and Productivity of Soviet Blast Furnaces." On the basis of Soviet data the strength and weaknesses of the Soviet metallurgical industry are revealed. Detailed information supplemented by numerous tables is given on the characteristics of individual metallurgical combines. The present state of the industry is well portrayed.

The second article, by N. Novak-Decker, is called "Soviet Agricultural Experiments." It gives an account of various innovations introduced by the Soviets on the land. The reasons for the present precarious position of agriculture are presented together with a detailed account of the causes behind the revision of Vilyams' *travopolye* system and the introduction of the Maltsev system.

A. Alexandrov shows in his detailed article "Soviet Housing Policy" that Soviet capital outlay on housing is insufficient and that the situation has changed but little in comparison with the prewar era. "The New Stage in Soviet Linguistics" by N. Poppe contains evaluations of the works of the Soviet linguists Bulakhovsky, Budagov and Vinogradov, to mention but three. The Party surveillance of this branch of learning is regarded as pernicious. E. Kirimal's "Musulman Religion in the Crimea" gives an account of Soviet tactics regarding religion in this area. After outlining the concessions made by the Soviets during the first ten years of their rule, the author gives a description of the rapid changes by which the Musulman religion was virtually eradicated in the Crimea.

In the section entitled "Notes" the subjects treated are the Soviet school, contemporary Russian and chess in the USSR.

The section "Bibliography and Criticism" contains reviews of G. D. Bakulev's "Ferrous Metallurgy in Southern Russia," Moscow, 1953; D. I. Shpolyansky's "Monopolies in the Coal and Metal Industries of Southern Russia at the Beginning of the XX Century," Moscow, 1953; "Dialectical Materialism," published by the Academy of Sciences, 1954; B. Petro's "The Philosophical Poverty of Marxism," Frankfurt am Main, 1952; and the poems of A. Tvardovsky. Included is a review of the Turkish language magazine *Dergi*.

A bibliographical index of the latest works on the Soviet Union, an outline of the latest events in the Institute's activities and an obituary of E. A. Vinogradova are appended.

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PROFESSOR N. KULIKOVICH. Soviet Opera in the Service of the Party and the Government. Series II (Mimeographed Publications), No. 30, 150 pp. (In Russian.)

The author, a composer and student of musical theory has written a serious work rich in historical material in which he describes the fruitless attempts of the Soviet government to create a specifically Soviet school of opera and to use it for Party propaganda. Communist composers who attempt to satisfy Party and government requirements are writing weak operas that enjoy no success with the public and therefore fail to achieve their aim. The only talented works are produced by a group the government persecutes as formalists. Thus opera in the USSR continues to suffer a crisis and the Party and government are unable, despite all their efforts, to utilize it for their own ends.

CHRONICLE OF EVENTS

(As reported by the Soviet Press and Radio)

October 1955

1 Representatives of the Japanese member firms of the Association of Japanese-Soviet Trade arrive in Moscow.

Japanese parliamentarians depart for home.

Deputy Chairman of the Council of Ministers of the USSR A. N. Kosygin arrives in England.

Chairman of the Executive Committee of the Moscow Soviet M. A. Yasnov arrives in Rome.

Abolition of the office of Supreme Commissioner of the USSR in Austria.

Exchange of notes in Beirut on the extension of Soviet-Lebanon trade relations.

2 TASS publishes report on the purchase of arms by Egypt.

The ceremonial anointing of the newly elected Catholicus of all the Armenians, Vazgen I, takes place in Edjmiatzin.

Molotov returns to Moscow from New York.

3 Minister of Culture of the USSR N. A. Mikhailov gives a luncheon in honor of Director General of UNESCO Dr. Luther Evans.

The "Yakov Sverdlov," a Diesel cargo ship built for the Soviet Union, launched in Temse (Belgium).

Delegation of the Supreme Soviet of the USSR leaves Moscow for Yugoslavia.

The Presidium of the Supreme Soviet of the USSR approves decision to ratify the agreement on relations between the USSR and East Germany.

4 Publication of Khrushchev's reply to a *Pravda* correspondent's question on the occasion of Khrushchev's remarks about North Africa.

5 Deputy Foreign Minister V. A. Zorin receives Dr. Evans.

L. B. Pearson, Canadian Foreign Minister, arrives in Moscow.

Molotov receives Pearson.

7 Finnish President J. K. Paasikivi ratifies Soviet-Finnish relations.

Publication of communiqué on exchange of documents ratifying pact between the USSR and East Germany on mutual relations.

The East German ambassador to the Soviet Union, J. König, gives reception to mark the sixth anniversary of the foundation of the German Democratic Republic.

8 Units of the Soviet fleet leave for Portsmouth, England.

Departure from Moscow for home of British agricultural delegation.

10 Delegation of the Supreme Soviet of the USSR arrives in Prague.

11 Secretary General of the Italian Socialist Party Nenni arrives in Moscow.

Conclusion of the Armenian church congress in Edjmiatzin.

The Presidium of the Supreme Soviet of the USSR ratifies protocol between the USSR and Finland extending the twenty year friendship pact and renouncing the Soviet Union's right to use Porkkala as naval base.

12 A Soviet-Canadian communiqué published.

Indian and UNESCO delegation departs for home.

Pearson returns to Canada.

13 Soviet government sends note the government of Iran regarding that country's intentions to join the Baghdad pact.

14 Publication of letter from Eisenhower to Bulganin on mutual air reconnaissance.

15 Khrushchev receives Nenni in Yalta.

Chairman of the Anglo-Soviet Cultural Relations Society arrives in Moscow.

17 Austrian-Soviet Pact on trade and navigation and agreement on barter and payments signed in Vienna.

Khrushchev receives the deputy prime minister and minister of agriculture of New Zealand, Mr. Holyoake.

18 Delegation of Chinese education workers arrives in Moscow.

Commander of the British Home Fleet, Sir Michael Denny, leaves Leningrad for home.

Ambassador in England of the Burmese Union, U Chin, arrives in Moscow.

Nenni leaves Moscow for home.

Soviet ambassador to Denmark, N. V. Slavin, presents his credentials to King Frederick in Copenhagen.

The Soviet government delivers note to the British government on the control of movement between the German Federal Republic and West Berlin of British, French and American military personnel and transport stationed in Berlin.

The Kakhovka hydroelectric power station begins production.

19 Mongolian trade delegation arrives in Moscow.

Agreement signed in Moscow between the USSR and Finland on air communications.

Lauching in Helsinki of the icebreaker "Kapitan Melekhov," built for the Soviet Union.

24 Finnish trade delegation arrives in Moscow.

25 Soviet delegation headed by Molotov leaves for Geneva.

The Fourth Congress on Physiological Optics opens in Leningrad.

29 The Soviet Ambassador to Italy, Bogomolov, gives a reception in honor of the Soviet delegation at present in Italy.

Inauguration of Soviet-German Friendship Month.

30 Delegation of the Supreme Soviet of the USSR leaves Moscow for Sofia.

CHANGES AND APPOINTMENTS

18 The Presidium of the Supreme Soviet of the USSR appoints V. V. Matskevich Minister of Agriculture of the USSR.

Contributors to this Issue

A. I. LEBED, engineer, author of many articles in Institute publications, co-author of *The Importance of Hydrotechnical Projects for Soviet Transport*, scholar employed in the Research Section of the Institute.

G. C. GUINS, gratuated from St. Petersburg University in 1909, lectured in Roman and trade law in Harbin from 1920 to 1941. From 1945 to 1954 was on the staff of the University of California. Author of numerous works, the latest being *Soviet Law and Soviet Society*, 1954.

The Institute also publishes the VESTNIK, a quarterly journal devoted to Soviet problems, as well as reviews and monographs in the various languages of the Soviet Union and the free world. Scholars interested in the Institute's publications are invited to write to:

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